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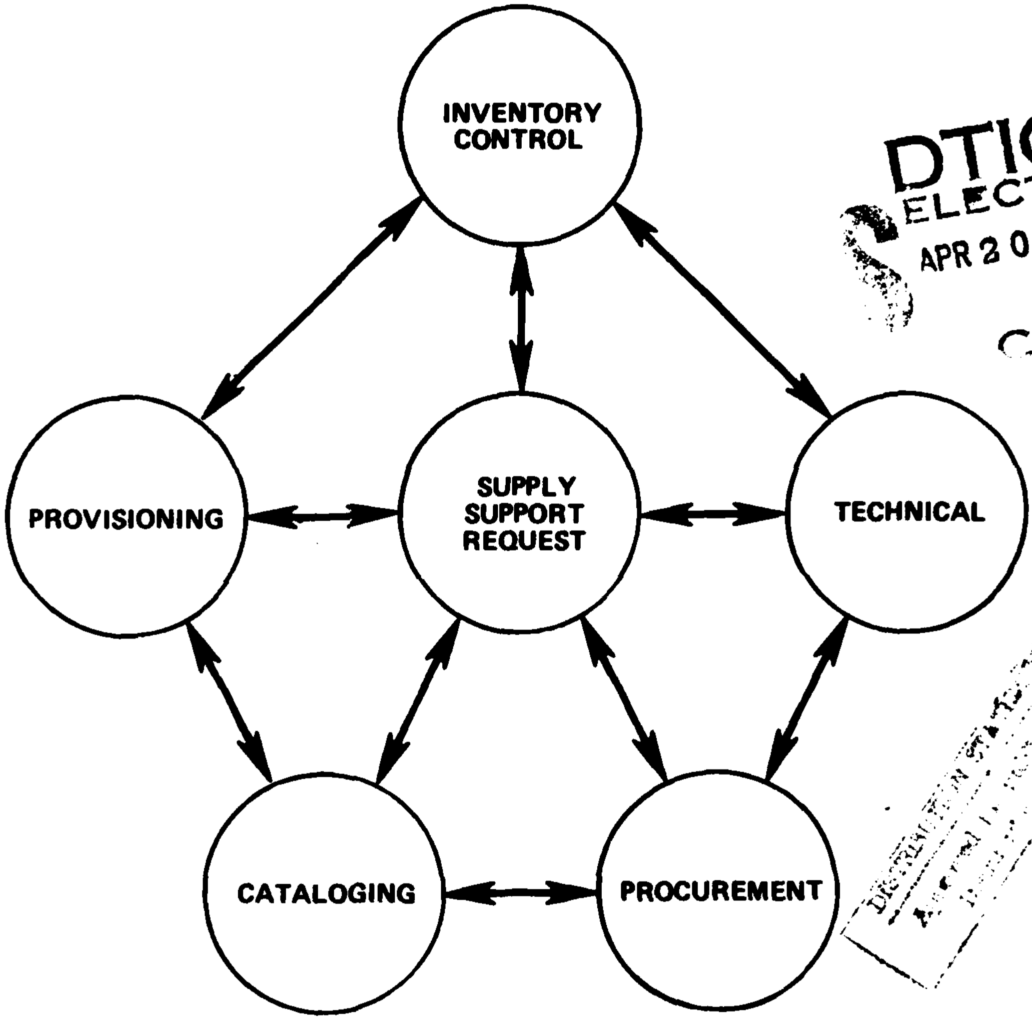
LEVEL III

DoD SUPPLY SUPPORT REQUEST STUDY (DODSSR)

Volume III. Performance Evaluation



DEFENSE LOGISTICS ANALYSIS OFFICE

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FOREWORD

By Memorandum dated August 17, 1977, the Deputy Assistant Secretary of Defense (Supply, Maintenance and Services) established a Department of Defense Study to conduct a comprehensive review and analysis of the supply support request (SSR) systems for generating, transmitting, processing and controlling SSRs in order to develop systems improvements to promote effective supply support of DoD equipments.

The Study included a review of SSR policy and procedures, the design of automated systems to implement the procedures and an operational implementation review of the effectiveness of SSR systems design.

This Report documents the study approach and methodology used in the pursuit of the study and presents observations, analyses, findings, conclusions and recommendations with supporting research and rationale.

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CHAPTER I

QUANTITATIVE EVALUATION

A. INTRODUCTION

1. Background

It was alleged by the Special Projects Group (SPG) that Supply Support Requests (SSRs) were not being processed in a timely manner due to an excessive reject rate, extended transmission times, a high delinquency rate and inadequate controls. The SPG had requested the Components to provide statistical information on the processing of SSRs. The information provided by the Components was limited and not sufficient to permit an analysis or comparison.

The study team performed a review of the management reports available at headquarters, systems design and operational activities of the Components. The team confirmed the SPG finding that there was very little management data available on SSRs at any level and that available information was not adequate to perform a quantitative evaluation of the performance of the SSR Systems.

The study group discussed the lack of availability of management reports with the chairman and members of the SPG. The study group expressed their desire to perform a quantitative evaluation of the SSR System and requested approval of a plan to collect and analyze SSR transactions. Authority was granted to the study team to prepare an evaluation plan and to establish a data collection and analysis system. An evaluation plan was developed, data collected and analyzed. A description of this process and presentation of the results are contained in this Chapter.

2. Purpose. The purpose of the evaluation was to apply quantitative methods to the evaluation of the supply support request systems and procedures in order to determine the relative effectiveness/efficiency of Service/Agency systems and procedures that were developed to implement DoD 4140.26M, Volume 1, May 1978.

3. Problem Objective. To measure the performance of the respective SSR systems, in support of the study objectives as stated in the Study Plan.

4. Scope. Data was collected on all known methods of requesting and obtaining supply support. The principal SSR Methods are shown below:

a. Supply Support Requests (SSRs).

b. Item Management Coding (IMC).

c. User Interest Registration (Add User).

d. Special Program Requirements (SPR).

e. Nonconsumable Item Materiel Support Request (NIMSR).

5. Approach. A quantitative Evaluation Plan (Appendix G) was developed to direct and control this research. The major thrust of the plan was to analyze the problems and accomplish the objectives outlined in the study plan. Research was accomplished in accordance with the plan as outlined below:

a. The major submitters (SICCs) and receivers (IMMs) of SSRs were identified.

b. A reports control symbol was obtained and a data collection system was established.

c. Actual transaction data was collected from each SSR submitter and receiver for a specified period of time.

d. Statistical information was collected from selected activities where transaction data was not available or not feasible to collect.

e. A data base was established to permit computerized processing of data.

f. The data base was purified through a validation process.

g. Evaluation criteria was developed to be used in the analysis of the collected data.

(1) Goals.

(2) Standards.

(3) Times.

(4) Reject Rates.

(5) Transaction Patterns.

(6) Other measures of effectiveness/efficiency.

h. Analytical models of the SSR systems were designed, and manual and computer requirements specifications and programs for descriptive and analytical reports were developed to evaluate these systems.

i. The data was stratified into populations and processed through the models and reports programs.

j. The computer and manually generated statistics were analyzed to determine the relative system performance. Actual performance was compared with evaluation factors to isolate problems, analyze system deficiencies, and develop and recommend system improvements as applicable.

B. METHODOLOGY

The collection of data for SSRs and NIMSRs for the DODSSR Study was coordinated with representatives of the SPG and the Component study contact points. The data collection specification was forwarded by DODSSR Study letter of 21 March 1978, Subject: Department of Defense Supply Support Request (DODSSR) Study Data Collection (Appendix H). Statistical information on IMC, Add User and SPR was collected as a part of headquarters and field research.

1. Data Submitting Activities. Data was collected from principal submitters (SICCs) and receivers (IMMs) of SSRs in the Federal Government. Data submitting activities included a combination of SICC, CIMM and WIMM activities as shown below:

a. Army

(1) ARRCOM

(2) CERCOM

(3) MIRCOM

(4) TARCOM

(5) TSARCOM

b. Navy

(1) ASO

(2) SPCC

c. Air Force

(1) OCALC

(2) OOALC

(3) SAALC

(4) SMALC

(5) WRALC

d. Marine Corps. MCLSBA

e. Defense Logistics Agency

(1) DCSC

(2) DESC

(3) DGSC

(4) DISC

f. General Services Administration. Federal Supply Service

2. Data Collection Requirements. Copies of actual SSR and NIMSR transactions were collected from the submitting activities in accordance with the procedures outlined below:

a. Types of Data

(1) CIMM/WIMM Consumable SSR Transactions prepared in accordance with the IMM Manual.

(a) PDSSR. (Program Data Supply Support Request Cards) Document Identifier Codes W/CWA.

(b) LISSR. (Line Item Supply Support Request Cards) DIC W/CX__.

(c) LIAC. (Line Item Advice/Followup Cards) CX1-CX4.

(2) NIMSR. (Nonconsumable Item Materiel Support Requests) prepared in accordance with the Joint Regulation on Nonconsumable Items (Appendix D, Reference 21).

b. Scope. Activities were requested to submit copies of all CIMM/WIMM/NIMSR transactions generated, submitted or received either intra or inter Service/Agency during the period 1 May through 31 December 1978. This included all initial requests, changes, followups, advice and response transactions. Copies of SSR transactions were collected from both the SSR submitting and receiving activities as a check and balance procedure, and to record the actual dates submitted by the SSR submitting activity and the actual date received by the SSR receiving activity.

c. Procedures

(1) CIMM/WIMM Consumable Transactions. Submitting activities were asked to reproduce/duplicate the transactions in punched card format and to enter the date (Julian Date) actually submitted by the SSR submitting activity and the date actually received by the SSR receiving activity in character positions 60-63 of each and every PDSSR/LISSR/LIAC transaction.

(2) NIMSR. Submitting activities annotated the Julian date actually submitted or received on each and every NIMSR Request/Advice/Followup form/letter/memo submitted or received.

3. Transmission of Data

a. CIMM/WIMM Consumables. These transactions were requested to be submitted to the DODSSR Study Team via AUTODIN after each SSR processing cycle. Transactions were received by the study team each day and transferred to the DODSSR Data Base on a daily basis.

b. NIMSR. These transactions were in form of letter media and were, therefore, mailed to the study group.

4. Data Base. A data base was established on the computer at the Administrative Support Center of the Defense Logistics Agency at Cameron Station, Alexandria, Virginia, to facilitate the processing and analysis of the SSR data. NIMSR data was processed manually and a manual file was maintained for NIMSR data.

a. Receipt of Data. The consumable SSRs were received at the AUTODIN terminal at the Communications Center at Cameron Station. NIMSR transactions were received by mail and processed manually. The consumable SSRs were routed directly from the Communications Center to the data processing support center.

b. Establishment of Data Base

(1) Input Records. The input to the data base consisted of the 80 character SSR card images plus the AUTODIN header and trailer cards used to transmit the SSR cards over AUTODIN.

(2) Processing

(a) A convention was established with the Communications Center to route all DODSSR Data Collection traffic directly to the AUTODIN Disk Holding File at the Support Center.

(b) The AUTODIN Header Content Indicator Code was accessed to select DODSSR Data Collection Records from the holding file.

(c) The Communications Routing Identifier of the AUTODIN Header and Trailer records were checked against a table of codes of data submitters.

(d) The Document Identifier Codes were checked for acceptability.

(e) An SSR Transaction Master File Data Record was created using acceptable AUTODIN Header and Trailer Records, and SSR Transaction Records. The first 80 positions of the output record consisted of the SSR transaction. An AUTODIN date submitted was added using the Julian date from the AUTODIN Header Card. An AUTODIN Date Received was constructed based upon the date the data was received at the Data Processing Support Center. Finally the Communications Routing Identifier of the submitting activity was obtained from the AUTODIN Header Card to create a 95 character record.

(f) A weekly SSR Input Statistics Report was produced each week during the collection of the data. This report provided counts of the number of each type of transaction received by the data submitting activity. This report was used to ensure that each submitting activity was properly providing data during the course of the data collection.

(g) A daily listing of error transactions was provided. This listing was used to contact submitting activities during the early stages of the data collection to correct initial errors and to ensure the integrity of the data being collected.

(3) Outputs

(a) Extracted/Reformatted SSR Transaction Master File. This magnetic tape file was created each day and consolidated into a master file each week. At the end of the data collection this file represented all the SSR transactions collected over an eight-month period. This file was retained for subsequent purification to create the final DODSSR Data Base.

(b) Daily Transaction Error Listing. This listing was used to monitor the collection of data.

(c) Weekly SSR Input Statistics. This report provided a cumulative count of all SSR transactions that had passed the initial check on Data Submitter Codes and Document Identifier Codes. The final cumulative report provides counts of all the SSR transactions in the initial data base. These statistics are summarized under data base statistics in Figure I-1 below.

(d) Selected Extracts. Prior to our visits to operating activities, samples of transactions were extracted from the file and printed. The listings of sample transactions were used during field research to understand the operation of the activities being visited and to monitor the progress of the data collection.

c. Purification of Data Base

(1) Input Records. The Extracted/Reformatted SSR Transaction Master File forms the initial data base used to create the final DODSSR Data Base. This file contains records with valid submitter data and document identifier codes and includes copies of SSR transactions from the submitter of the SSR transaction and also from the receiver of the SSR transaction.

(2) Processing. The records were checked to eliminate total duplicates. These are transactions that had identical data submitted by the same data submitting activity. Date fields were then checked for validity. Submitter and receiver records for the same SSR transaction were then combined to create the final DODSSR Data Base entitled the Combined Submitter/Receiver SSR Master File. Counts were maintained and reports produced showing the number of SSR transactions received from SSR submitters only, those from SSR receivers only and those from both SSR submitters and receivers.

(3) Outputs

(a) Combined Submitter/Receiver SSR Master File. This magnetic tape file constitutes the final DODSSR Data Base used to develop SSR System Models and statistical analyses for the Quantitative Evaluation of the SSR System. The file was constructed by merging SSR submitter and receiver records from the initial data base and includes the information shown below.

Character Position	Data Elements
1-59	Common SSR transaction data from submitter and receiver records.
60-63	Date the submitter said he sent the SSR transaction to the SSR receiver.
64-80	Common SSR transaction data from submitter and receiver records.
81-84	AUTODIN Date the SSR submitter sent data to the study team.

85-88	AUTODIN Date the transaction was received by the study team from the SSR submitter.
89-95	Communications Routing Identifier of the SSR submitter.
96-99	Date the SSR receiver said he received the SSR.
100-103	AUTODIN Date the SSR receiver sent data to the study team.
104-107	AUTODIN Date the transaction was received by the study team from the SSR Receiver.
108-114	Communications Routing Identifier of the SSR Receiver.

(b) Submitter/Receiver Report. This report provides the number of records received from SSR submitters and receivers by the Activity Code To and Activity Code From data elements from the SSR transaction records. Summarization of counts are shown in the data base statistics.

d. Data Base Statistics

Figure I-1 provides the volume of data received and entered into the initial file and volume of records in the final DODSSR Data Base. The automated data base includes the program data records, line item support requests and the line item advice cards.

DATA BASE STATISTICS

Type Record	Initial	Combined
PDSSR	67,881	42,568
LISSR	823,488	487,029
LIAC	547,485	371,239
SSR Total	1,438,854	900,836
NIMSR	4,709	2,890

Source: DODSSR Data Collection; Main Population

Figure I-1

The initial records include all the PDSSR, LISSR and LIAC cards received over AUTODIN and entered into the initial holding file. The combined count shows the final count of records in the DODSSR Data Base after elimination of duplicate records and the merger of SSR submitter and SSR receiver cards into a combined submitter/receiver master record.

The NIMSR initial count represents the raw count of all the nonconsumable item request forms that were received in the mail. The combined count is similar to the combined SSR count in that it represents the final count of the records after submitter and receiver records were merged into a combined record. The NIMSR data base is a manual data base.

e. Data Base Stratification. The DODSSR Data Base consists of all the initial, change, followup, advice, reply and response records that were submitted or received by the eighteen major SSR processors during an eight-month period. The data base is, therefore, an activity limited, time limited sample of the total population of SSR transactions. The sample size is so large, however, that it approaches the total population size in terms of statistical validity and reliability. The data base was divided into a number of sample populations to permit a comparative analysis of a number of analytical tests and conditions.

(1) Main Population. This file includes all combined submitter/receiver records received from all eighteen data submitters from 1 May to 31 December 1978.

(2) Transition Period. This sample includes all transactions submitted during the period 1 May to 31 August 1978. The new SSR Procedures were implemented on 1 May 1978. Any time a new system is developed and implemented there is a transition period required to fully convert from the old to the new system. During the early months after implementation, an allowance should be made for errors that can be attributed to the differences and problems associated with the old and new systems. The total population was, therefore, divided into two populations representing the first and last four months of the data collection to permit a comparison of occurence of conditions between the two periods.

(3) Steady State. This sample consists of all transactions submitted by all data submitting activities during the period 1 September to 31 December 1978. The steady state is defined as that timeframe when the system has "settled down," the "bugs" in the system have been identified and corrected, users have gained familiarity with the new system and it is operating within the parameters of the system, as designed.

(4) Non-AUTODIN Test. The AUTODIN Test was conducted during the period 1 September to 31 December 1978. This population consists of transactions that were submitted or received during the test period from data collection activities that were not participating in the AUTODIN Test.

(5) AUTODIN Test. This sample consists of records from activities participating in the AUTODIN Test during the period 1 September to 31 December 1978.

(6) Non-TELEFAX Test. Records included in this file consist of records submitted during the AUTODIN Test Period from activities that participated in the AUTODIN Test but not the TELEFAX Test, and records submitted during the period 1 September to 30 September 1978 part of the AUTODIN Test from activities participating in both the AUTODIN and TELEFAX Tests.

(7) TELEFAX Test. Records from the period 1 October to 31 December 1978 from activities participating in both the AUTODIN and TELEFAX Test are included in this sample. The TELEFAX Test was conducted during this timeframe.

f. Data Base Processing. Analytical models of the SSR systems were designed, and manual and computer requirements specifications and programs for descriptive and analytical reports to evaluate these systems were developed. The stratified populations were processed through these models and reports programs. A description of this process is provided in Paragraph C. of this Chapter.

C. ANALYSES AND EVALUATIONS

The quantitative analyses portrayed in this section were developed in support of the problems and objectives as outlined in Chapter III, Volume I, Problem Identification. This quantitative evaluation does not stand alone, but must be considered in conjunction with the other techniques of analyses described in this Report. This evaluation provides descriptive statistics to describe the system in terms of the population of supply support request methods and types used in the SSR System, and in terms of the activities submitting, receiving and processing these transactions. These transactions were then analyzed to determine the types of actions that were taken on them by processing activities. A life cycle analysis was then performed by stringing together all transactions relating to a request for the support of a particular item of supply from the initial request until final acceptance or rejection of the supply support request. This life cycle analysis consisted of two parts. A transaction analysis was performed to classify the chains into chain patterns by analyzing the types, combinations and order of types of transactions in a chain. These chain patterns were then grouped

into categories, viewed as networks and an analysis was performed to determine the time to accomplish individual events, groups of events and total life cycle chain time. The various SSR Systems described in Volume II were evaluated using descriptive and analytical models in accordance with the approach described above to determine the relative effectiveness and efficiency of the various SSR Systems.

1. Supply Support Methods

During the course of research, the study team discovered that there were a number of methods that were being used to request supply support. Although the primary area of concentration was on supply support requests as described in Chapter IV and Appendix E of the IMM Manual, the study team requested and received permission from the SPG to obtain information to ascertain the incidence and reason for the use of alternative forms of supply support requests. The rationale behind this was that if there were other forms in use, there were possible problems relating to the understanding of what should be used, under what conditions one method should be used in place of another, and whether one method was easier to use or another was deficient. This section provides statistics on the incidence of use of different SSR Methods. The statistics provided on alternative methods of supply support were analyzed in terms of the comparative analysis of systems and procedures contained in Chapter V, Volume I, of this Report.

Figure I-2 displays the estimated annual volume of traffic of various methods used to request supply support. The volume is estimated because different sources of data for varying periods of time was used. The data for each method was then projected for a period of one year. Although the data was from different periods of time there was a general overlap of the time period for each of the methods depicted.

SUPPLY SUPPORT METHODS
(Estimated Annual Volumes)

Method	Number	Percent
SSR	422,567	89%
IMC	16,486	3
Add User	6,949	2
SPR	21,440	5
NIMSR	2,890	1
Total	470,332	100%

Source: DODSSR Data Collection, DLSC IMC Report, and Field Research

Figure I-2

a. SSR. The data for SSRs represents the number of requests for individual line items of support in accordance with the procedures contained in Chapter IV and Appendix E of the IMM Manual. The data was obtained from the DODSSR data collection. The eight months of data in the data collection was extended to a period of one year for purposes of comparison with other methods of requesting supply support. More definitive data and analysis of SSRs will be provided under SSR volumes below.

b. IMC

Chapter III of the IMM Manual contains procedures for the assignment of Item Management Codes (IMCs) to items subject to integrated materiel management. An IMC card, current Document Identifier Code LVA, historically has been used to convey the results of item management coding to the integrated materiel manager and to DLSC. These procedures prescribe for use of IMC cards to cover the following types of actions:

(1) DLSC Reclassification (includes initial and retroactive coding actions).

(2) Maintenance coding actions.

(3) Adopt coding.

(4) Reactivation actions.

(5) Change actions.

(6) Return coding actions.

The use of the IMC for adopt actions parallels the use of SSRs to request and obtain supply support for an item with an NSN when the Military Service submitting the request is not a recorded user of the item, but wants to become a user and request supply support. IMC cards can currently be used only for items with NSNs.

The statistics on IMCs in Figure I-2 represents IMCs used for adopt actions and were extracted for the period May 1978 to March 1979 and extended to a period of one year.

c. Add User. Prior to 1 May 1978 an activity of a Military Service could be recorded as a user of an item managed by an IMM by submitting an IMC, SSR or an Add User Transaction DIC LAU. With the implementation of the revised procedures in the IMM Manual effective 1 May 1978, the Services can no longer use the Add User Transaction to be recorded as a user on an IMM item. However, the IMM Manual in Chapter III provides for the

IMMs to record the incidence of demand from requisitions by Services not officially recorded as users of an NSN item. Procedures are then provided to automatically record the Service as a user on the item or to contact the Service and request an SSR and then record the Service as a user. The add user statistics shown in Figure I-2 represent the volume of transactions of this nature and were taken from the same source as the IMC statistics. This statistic represents a method to provide the benefits of supply support when an SSR or IMC has not been used by a Service that has been requisitioning an item.

d. SPR. Chapter XI of MILSTRAP, DoD 4140.22-M, (Appendix D, Reference 26), provides procedures for submitting Special Program Requirement Transactions (SPRs) to forecast requirements for items required to support special programs or projects which are of a nonrepetitive nature and cannot be forecasted by the ICP based on demand data, and which have the greatest probability of materializing and resulting in the eventual submission of requisitions. SSRs on the other hand, are intended to submit requirements for items with estimated repetitive demand. The data depicted for SPRs was extracted during research at DLA Headquarters from reports produced by DLA. The volume data for SPRs depicted in Figure I-2 represents forecasts of demand requirements for the Air Force for specific aircraft for Fiscal Year 1978. Based upon discussions with DLA Headquarters personnel and reviews of DLA trip reports covering support problems for Air Force aircraft, it is the opinion of the study group that the data shown in the figure represents the use of SPRs to obtain supply support in lieu of the use of SSRs.

e. NIMSR. A Nonconsumable Item Materiel Supply Support Request (NIMSR) is prepared, submitted and processed in accordance with the joint regulation for support of multiused nonconsumable items (Appendix D, Reference 21). Although the DODSSR Study was limited to consumable items, permission was granted by the SPG to collect data on the volume and usage of NIMSRs for comparative purposes. The data for NIMSRs was obtained from the DODSSR Data Collection and is shown here to compare the relative volume with the traffic of other SSR methods.

f. Summary. Conventional supply support requests (SSRs) are used in 89% of the cases to request and obtain supply support for consumable and nonconsumable items of support. If nonconsumables are excluded, SSRs are used in 90% of the cases. This means that 10% of the time an alternative method is being used in place of an SSR. Requisitions, per se, are not shown here because a requisition does not request the performance of item management coding or cataloging actions and does not provide a forecast of materiel requirements. A requisition is a request for a specific

amount of materiel which is to be issued, to be delivered to a particular activity. Chapter V, Volume I, of this Report compares and contrasts the procedures that specify the use of SSRs and alternative methods for requesting supply support.

2. Supply Support Request (SSR) Packages. The use of the terminology "Supply Support Methods" above was used to distinguish between supply support requests and other alternative vehicles used to accomplish supply support actions. The statistical information shown for SSRs refers to SSRs as described in the functional requirements section of Volume I of this Report and Chapter IV and Appendix E of the IMM Manual. The DODSSR Data Base was used to generate the information shown on SSRs in this section.

a. Package Volumes

Supply support requests are forwarded from SSR submitters (SICCs) to SSR receivers (IMMs) in SSR packages. Figure I-3 displays volumes of SSR packages submitted during the period of the DODSSR Data Collection. There are two kinds of packages represented by this figure, PDSSR and LISSR packages.

SSR PACKAGES
(Number of Cards)

Type	CIMM	WIMM
PDSSR	39,935	2,633
LISSR		
Request	404,316	7,483
Catalog	76,507	-
Total	520,758	10,116

Source: DODSSR Data Collection; Main Population

Figure I-3

(1) PDSSR packages consist of a PDSSR header card and associated LISSR cards with the same control information being forwarded from a specific submitter to a specific receiver. A PDSSR package may contain as few as two cards, one PDSSR header and one LISSR or may contain as many as several thousand cards. The average PDSSR package for a CIMM item contains 13 cards including the header card. WIMM PDSSR packages contain an average of four cards including the header card. The difference in the average number of cards for CIMM and WIMM items is attributable to the fact that LISSR catalog cards apply only to CIMM items.

Also as will be shown under LISSR statistics below, SSRs for WIMM items are generally for NSN items. An NSN request requires a minimum of one LISSR card while a part number request requires additional cards to supply catalog data.

The average number of requests in a PDSSR package is seven for a CIMM and three for WIMM. A request consists of a request transaction with its associated catalog cards for the same item of support.

(2) LISSR packages are comprised of all the request and catalog cards for the same item of support on the same date of request. A LISSR package can contain from one to more than 100 cards. The maximum experienced in the data collection was 165. LISSR packages for a CIMM item contained an average of two cards while WIMM LISSR packages contained an average of 1.05 cards. Restriction of use of catalog cards to CIMM items and restriction of part number requests for WIMM items to joint service provisioning actions accounts for the difference in the CIMM and WIMM averages.

b. Submitter/Receiver Relationships. Submission of program data and line item SSR packages from SICCs to IMMs is displayed by submitter (SICC) and receiver (IMM) to show the relative volume of traffic and the relationship among the major contributors. The data is displayed separately for CIMM and WIMM items.

(1) Program Data Supply Support Requests (PDSSRs)

(a) CIMM. Figure I-4 presents a picture of the number of program data packages submitted during the data collection period. The Defense Logistics Agency received 94.3% of all the PDSSR Packages. The General Services Administration received 3.7% of the traffic, while TARCOM received 0.6%. The Air Force was the largest Service submitter at 42.3%, while SPCC and SMALC were the largest activity submitters with about 20% each. The largest single receiver of PDSSRs was DESC with 35.6%. The "Other" column represents invalid use of document identifier codes or transmission to other than a CIMM.

(b) WIMM. The PDSSR submitter/receiver relationships for WIMM traffic is shown in Figure I-5. The traffic is much smaller than for CIMM items. The Air Force and Navy are the largest submitters and receivers of WIMM traffic. The Navy sent 25.6% and received 34.9% of the total traffic. The Air Force sent 40.8% and received 31.6% of the total traffic. Most of the Navy and Air Force business was with each other. ASO was the single biggest submitter and receiver with 25.5% of the outgoing and 18.8% of the incoming traffic.

PDSSR SUBMITTER/RECEIVER RELATIONSHIPS
(Number of CIMM Transactions by Activity)

Submitter	Receiver							
	DCSC	DESC	DGSC	DISC	GSA	TARCOM	Other	Total
ARRCOM	54	144	66	243	46	1	23	577
CERCOM	37	671	278	177	31	0	13	1,207
MIRCOM	18	264	102	173	29	0	5	591
TARCOM	402	113	181	469	16	0	12	1,193
TSARCOM	222	326	242	720	90	7	64	1,671
ASO	390	1,760	772	1,116	65	13	6	4,122
SPCC	1,609	2,750	1,352	1,797	243	20	230	8,001
OCALC	14	11	25	33	3	0	0	86
OOALC	15	15	240	36	11	0	4	321
SAALC	1,018	457	877	2,624	57	35	56	5,124
SMALC	27	5,621	2,049	511	15	2	70	8,295
WRALC	493	516	549	798	621	61	46	3,084
MCLSBL	297	393	200	379	38	77	36	1,420
EGICP	0	102	67	119	0	0	0	288
SICP	69	4	44	17	0	0	0	134
AICP	1	1	1	0	0	1	0	4
OTHER	688	1,054	937	904	218	9	7	3,817
TOTAL	5,354	14,202	7,982	10,116	1,483	226	572	39,935

Source: DODSSR Data Collection; Main Population

Figure I-4

PDSSR SUBMITTER/RECEIVER RELATIONSHIPS
(Number of WIMM Transactions by Activity)

Submitter	Receiver														
	ARRCOM	CERCOM	MIRCOM	TARCOM	TSARCOM	ASO	SPCC	OCALC	OOALC	SAALC	SMALC	WRALC	MCLSBL	Other	Total
ARRCOM	0	0	0	1	1	7	21	1	3	7	1	20	9	0	71
CERCOM	0	0	2	0	0	14	13	1	2	7	19	13	4	3	78
MIRCOM	0	2	0	0	0	4	13	3	1	12	10	5	4	7	61
TARCOM	0	0	0	0	0	4	10	2	1	4	0	2	25	1	49
TSARCOM	8	0	0	1	0	26	6	20	1	30	5	24	11	2	134
ASO	12	41	29	0	32	0	75	57	61	129	84	111	29	12	672
SPCC	0	1	0	0	0	0	0	0	0	1	1	0	0	0	3
OCALC	0	0	2	0	6	32	2	0	0	0	0	0	0	0	42
OOALC	1	3	7	0	2	47	12	0	0	0	0	0	0	0	72
SAALC	20	20	9	4	29	83	61	0	0	0	0	0	18	7	251
SMALC	7	60	13	3	13	117	116	0	0	0	0	0	29	14	372
WRALC	32	27	4	53	25	107	52	0	0	0	0	0	26	11	337
MCLSBL	34	48	39	0	7	5	30	1	13	8	15	13	0	5	218
EGICP	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
SICP	6	0	0	3	6	0	0	0	0	0	0	0	0	0	15
AICP	1	14	0	1	2	25	2	11	3	56	1	39	0	0	155
OTHER	6	18	3	1	1	23	12	0	4	2	19	8	4	0	101
TOTAL	127	234	108	67	124	494	426	96	89	257	155	235	159	62	2,633

Source: DODSSR Data Collection; Main Population

Figure I-5

(2) Line Item Supply Support Requests (LISSRs)

(a) CIMM. The data in Figure I-6 for LISSRs is comparable to the PDSSR traffic for CIMM items. Although DLA received roughly the same percentage of overall traffic, it is interesting to note that the DESC volume for LISSRs was 57.3%, over half the total traffic, while the DESC volume for PDSSRs from Figure I-4 was 35.6%. This indicates that DESC is receiving provisioning submissions with a greater number of items per package. Although the Air Force submits more PDSSR Packages, the Navy with 43.3% of the LISSR traffic submitted is the largest submitting Service. SPCC is the largest activity submitter with 30.4%, while SMALC is second with 20.2%. The largest activity to activity relationships are with DESC and SPCC (21.8%), and DESC and SMALC (17.1%).

(b) WIMM

LISSR Packages submitted for WIMM items are similar to those for PDSSR Packages for WIMM items as shown in Figure I-7. The Navy and Air Force are the largest Service submitters with 27.2% and 37.1%, respectively. The Navy's SPCC is the largest activity submitter with 27%. The Navy is the largest receiver of LISSRs with 36.2% of the action split about evenly between ASO and SPCC. The volume of LISSRs for WIMM items appears to be lower than it should be due to the use of C__ series Document Identifier Codes for WIMM items. The C__ series is reserved for CIMM items.

The Air Force data does not show any intraservice traffic which is consistent with Air Force system design and implementation. The ASO in the Navy sends about 9.6% of its outgoing traffic to SPCC on an intraservice basis. However, SPCC does not show any WIMM LISSRs sent to ASO. The intraservice traffic in Army is rather low. The Army, like the Navy, specifies the use of SSRs for intraservice use. The low incidence of use of WIMM SSRs for the Army, and SPCC in the Navy may be attributable to the use of C__ series documents that make up a large part of the "Other" column in Figure I-6.

c. Types of Submissions

(1) PDSSR

(a) CIMM

Figure I-8 breaks down PDSSR submissions by the type of submission. A Type of Change Code (TCC) is used to indicate the type of submission of an SSR. An original submission reflects a complete or incremental submission of provisioning or other program data and SSRs. A change indicates a design or program change to an original submission. Nonprovisioning is not defined in the IMM Manual. The "Other" column represents invalid characters including blank submissions of a TCC.

LISSR SUBMITTER/RECEIVER RELATIONSHIPS
(Number of CIMM Transactions by Activity)

Submitter	Receiver							
	DCSC	DESC	DGSC	DISC	GSA	TARCOM	OTHER	TOTAL
ARRCOM	70	257	99	415	80	1	27	949
CERCOM	70	3,369	1,141	666	77	0	36	5,359
MIRCOM	21	784	130	350	29	0	9	1,323
TARCOM	1,324	180	348	1,502	26	1	14	3,395
TSARCOM	1,831	1,434	846	4,863	194	19	156	9,343
ASO	2,010	21,724	3,459	7,977	176	56	11	35,413
SPCC	4,787	59,973	5,638	11,029	895	33	1,213	83,568
OCALC	63	37	87	145	3	0	0	335
OOALC	38	206	555	1,117	226	0	93	2,235
SAALC	3,732	1,378	2,194	15,647	122	258	108	23,439
SMALC	77	46,922	6,096	2,245	23	9	74	55,446
WRALC	3,619	3,597	3,179	4,237	6,141	268	47	21,088
MCLSBL	3,435	2,825	771	5,014	156	274	58	12,533
EGICP	0	105	92	206	0	0	0	403
SICP	116	3	20	17	0	0	0	156
AICP	2	1	1	0	0	1	0	5
OTHER	1,278	14,490	1,502	2,054	272	24	39	19,659
Total	22,473	157,285	26,158	57,484	8,420	944	1,885	274,649

Source: DODSSR Data Collection; Main Population

Figure I-6

LISSR SUBMITTER/RECEIVER RELATIONSHIPS
(Number of WIMM Transactions by Activity)

	Receiver														
Submitter	ARRCOM	CERCOM	MIRCOM	TARCOM	TSARCOM	ASO	SPCC	OCALC	OOALC	SAALC	SMALC	WRALC	MCLSBL	Other	Total
ARRCOM	0	0	0	1	1	7	44	2	3	7	1	30	12	1	109
CERCOM	0	0	6	0	0	55	25	1	5	47	27	19	6	9	200
MIRCOM	0	2	0	0	0	7	16	3	1	23	15	8	5	23	103
TARCOM	0	0	0	0	0	4	11	2	1	5	0	6	97	1	127
TSARCOM	10	0	0	8	0	42	30	26	1	41	6	48	21	7	240
ASO	71	46	244	0	185	0	184	168	176	271	120	375	33	37	1,910
SPCC	1	6	0	0	0	0	0	0	0	2	2	0	3	0	14
OCALC	0	0	2	0	7	88	2	0	0	0	0	0	0	0	99
OOALC	2	3	10	0	2	102	16	0	0	0	0	0	0	0	135
SAALC	24	40	26	19	43	264	156	0	0	0	0	0	30	9	611
SMALC	7	173	37	4	21	253	359	0	0	0	0	0	39	25	918
WRALC	34	44	4	294	33	199	200	0	0	0	0	0	36	11	855
MCLSBL	279	472	151	1	39	5	116	1	25	9	18	18	0	10	1,144
EGICP	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
SICP	6	0	0	1	6	0	0	0	0	0	0	0	0	0	13
AICP	1	14	0	1	2	24	2	7	2	55	2	35	0	0	145
OTHER	12	21	4	1	0	62	285	0	4	4	29	8	7	0	437
Total	447	821	484	330	339	1,112	1,447	210	218	465	220	547	289	133	7,062

Source: DODSSR Data Collection; Main Population

Figure I-7

PDSSR VOLUMES FROM SICC TO CIMM
(Row Percent by Submitter)

Submitter	Type of Submission			
	Original	Change	Non-provisioning	Other
ARRCOM	45.4%	0.0	51.5%	3.1%
CERCOM	91.1	0.2	2.4	6.3
MIRCOM	98.2	0.3	0.0	1.5
TARCOM	93.0	1.7	0.4	4.9
TSARCOM	83.2	0.5	10.8	5.5
Army	84.8%	0.6%	9.8%	4.8%
ASO	100.0%	0.0%	0.0%	0.0%
SPCC	94.1	0.1	5.8	0.0
Navy	96.1%	0.0%	3.9%	0.0%
OCALC	61.6%	0.0%	38.4%	0.0%
OOALC	32.7	0.0	67.3	0.0
SAALC	90.9	0.4	8.7	0.0
SMALC	95.7	3.4	0.8	0.1
WRALC	66.0	2.6	31.4	0.0
Air Force	87.6%	2.2%	10.2%	0.0%
MCLSBL	89.8%	0.0%	7.9%	2.3%
MC	89.8%	0.0%	7.9%	2.3%
EGICP	78.8%	0.0%	21.2%	0.0%
SICP	95.5	0.0	4.5	0.0
AICP	100.0	0.0	0.0	0.0
CG	84.3%	0.0%	15.7%	0.0%
Other	36.4%	0.0%	59.9%	3.7%
Total	84.9%	1.0%	13.0%	1.1%

Source: DODSSR Data Collection; Main Population

Figure I-8

Only 1% of the program data cards received in the data collection represented submission of changes. The low usage among submitters was fairly uniform. The use of the designation "Nonprovisioning" fluctuated widely among submitters. Note that ARRCOM in the Army has roughly a 50/50 split of provisioning and nonprovisioning. ASO in the Navy did not submit any nonprovisioning PDSSRs. Submissions of provisioning and nonprovisioning also vary widely among Air Force activities.

The review of the systems design and implementation at the data submitting activities indicates a wide disparity in the use of these codes. The use of these codes is not consistent for initial, follow-on, reprovisioning, and equipment design changes. Some of the systems do not provide for the automated generation of SSRs for equipment design changes. Nonprosioning is sometimes used for follow-on or reprovisioning and sometimes for equipment design changes. Sometimes design changes are not forwarded by SSRs. Submission of requirements for equipments delivered after the first year is also mixed. Current DoD policy and criteria for when an original SSR or SSR change should be submitted is either not clear or conflicts from directive to directive. The procedures section of Chapter IX will provide a comparison of this policy.

(b) WIMM. The types of PDSSR submissions shown in Figure I-9 represent the same types of patterns as for CIMM submissions; an extremely low 0.2% change submissions with a wide fluctuation of the use of nonprovisioning among activities. The general patterns remained the same except for Air Force where the ratio of nonprovisioning to provisioning was higher for WIMM while it was lower for CIMM. Overall nonprovisioning actions were up 13.4% over CIMM actions. The same explanation as was provided for CIMM above applies for WIMM.

(2) LISSR

(a) CIMM. The statistics in Figure I-10 for LISSRs for CIMM items show the same variability in application of Type of Change Codes as for PDSSRs. However, it should be noted that the total percentage of nonprovisioning LISSRs submitted is 7.8% as compared with 13.0% for PDSSRs. This indicates that the number of cards in a nonprovisioning PDSSR package tends to be less than for provisioning. The same situation prevails for change submissions with the percentage dropping from 1.0% for PDSSR packages to 0.4% for LISSR packages. The less than one-half of one percent figure for LISSR changes tends to confirm the observations made above for PDSSR changes that there needs to be a clarification of the definitions and usage for the use of the designation "Nonprovisioning" and "Change" in the submission and processing of supply support requests.

(b) WIMM. The LISSR data for WIMM items in Figure I-11 are comparable to those for PDSSRs. This is attributed to the high usage of NSN SSRs for WIMM items.

PDSSR VOLUMES FROM SICC TO WIMM
(Row Percent by Submitter)

Submitter	Type of Submission: Original	Change	Non-provisioning	Other
ARRCOM	43.7%	0.0	52.1%	4.2%
CERCOM	77.0	0.0	17.9	5.1
MIRCOM	98.4	0.0	0.0	1.6
TARCOM	98.0	0.0	0.0	2.0
TSARCOM	89.6	0.7	1.5	8.2
Army	81.1%	0.3%	13.5%	5.1%
ASO	100.0%	0.0%	0.0%	0.0%
SPCC	0.0	0.0	100.0	0.0
Navy	99.6%	0.0%	0.4%	0.0%
OCALC	59.5%	2.4%	38.1%	0.0%
OOALC	48.6	0.0	51.4	0.0
SAALC	34.7	0.4	64.9	0.0
SMALC	64.7	0.3	34.7	0.3
WRALC	27.6	0.0	72.4	0.0
Air Force	44.8%	0.3%	54.8%	0.1%
MCLSBL	82.6%	0.0%	15.6%	1.8%
MC	82.6%	0.0%	15.6%	1.8%
EGICP	100.0%	0.0%	0.0%	0.0%
SICP	73.3	0.0	0.0	26.7
AICP	94.8	0.0	5.2	0.0
CG	93.0%	0.0%	4.7%	2.3%
Other	88.1%	0.0%	7.9%	4.0%
Total	72.1%	0.2%	26.4%	1.3%

Source: DODSSR Data Collection; Main Population

Figure I-9

LISSR VOLUMES FROM SICC TO CIMM
(Row Percent by Submitter)

Submitter	Type of Submission: Original	Change	Non-provisioning	Other
ARRCOM	60.0%	0.1%	39.5%	0.4%
CERCOM	89.3	0.2	10.5	0.0
MIRCOM	98.6	0.9	0.0	0.5
TARCOM	98.0	0.7	0.5	0.7
TSARCOM	93.1	1.6	5.1	0.2
Army	91.8%	0.9%	7.0%	0.3%
ASO	100.0%	0.0%	0.0%	0.0%
SPCC	98.2	0.0	1.8	0.0
Navy	98.7%	0.0%	1.3%	0.0%
OCALC	66.3%	0.0%	33.7%	0.0%
OOALC	88.3	0.0	11.7	0.0
SAALC	89.7	0.2	10.1	0.0
SMALC	98.1	1.4	0.5	0.0
WRALC	41.8	0.5	57.7	0.0
Air Force	84.3%	0.4%	15.3%	0.0%
MCLSBL	96.7%	0.0%	3.0%	0.3%
MC	96.7%	0.0%	3.0%	0.3%
EGICP	35.7%	0.0%	12.9%	51.4%
SICP	32.1	0.0	3.8	64.1
AICP	100.0	0.0	0.0	0.0
CG	35.3%	0.0%	10.3%	54.4%
Other	85.3%	0.0%	14.1%	0.6%
Total	91.6%	0.4%	7.8%	0.2%

Source: DODSSR Data Collection; Main Population

Figure I-10

LISSR VOLUMES FROM SICC TO WIMM
(Row Percent by Submitter)

Submitter	Type of Submission			
	Original	Change	Non-provisioning	Other
ARRCOM	45.9%	0.0%	54.1%	0.0%
CERCOM	88.5	0.0	9.5	2.0
MIRCOM	100.0	0.0	0.0	0.0
TARCOM	98.4	0.0	0.0	1.6
TSARCOM	97.9	0.9	0.8	0.4
Army	88.6%	0.2%	10.3%	0.9%
ASO	100.0%	0.0%	0.0%	0.0%
SPCC	64.3	0.0	35.7	0.0
Navy	99.7%	0.0%	0.3%	0.0%
OCALC	70.7%	2.0%	25.3%	2.0%
OOALC	53.3	0.0	46.7	0.0
SAALC	36.8	0.2	63.0	0.0
SMALC	50.6	0.1	49.2	0.1
WRALC	17.3	0.0	82.7	0.0
Air Force	37.4%	0.2%	62.3%	0.1%
MCLSBL	76.3%	0.0%	22.1%	1.6%
MC	76.3%	0.0%	22.1%	1.6%
EGICP	100.0%	0.0%	0.0%	0.0%
SICP	0.0	0.0	0.0	100.0
AICP	97.9	0.0	2.1	0.0
CG	90.0%	0.0%	1.9%	8.1%
Other	97.5%	0.0%	1.6%	0.9%
Total	71.3%	0.1%	28.0%	0.6%

Source: DODSSR Data Collection; Main Population

Figure I-11

3. Supply Support Request Transactions

a. Population Volumes

The volume of records for each of the populations used in generating reports for this quantitative analysis is shown in Figure I-12.

POPULATION VOLUMES

Population Number	Population Name	Number Records
0	Main	900,836
1	Transition	484,051
2	Steady State	315,015
3	Non-AUTODIN Test	299,513
4	AUTODIN Test	15,502
5	Non-TELEFAX Test	5,623
6	TELEFAX Test	9,879

Source: DODSSR Data Collection

Figure I-12

The Main Population which consists of all the consumable SSR Transactions collected during the entire data collection period was subdivided into the Transition and Steady State periods. Populations 0, 1, and 2 were then compared to determine if there were any bias, problems or errors that could be attributable to the old system or to the transition to a new system.

The first thing that was noticed was that there were a number of transactions with a start date (Date of Request) prior to the 1 May 1978 implementation date of the new SSR Procedures. These were transactions that had been either created and held until the start date or were follow-on transactions to an SSR that had been created under the old system. These transactions were eliminated in the extraction of Populations 1 and 2; therefore, Populations 1 and 2, which are the first and second halves of the data collection period respectively, do not add up to the count of records for the main population.

The main population was then subdivided into provisioning and nonprovisioning transactions and a report was generated to show the counts of the different types of transactions in these two populations to determine if there was any significant difference for provisioning and nonprovisioning actions. Nonprovisioning transactions account for about 8% of

the total population. On WIMM items, 99% of the provisioning requests are for stock numbered items as compared to 92% for nonprovisioning WIMM items. More CXF Item Name Cards are sent for nonprovisioning than provisioning items. Seventy-one percent of nonprovisioning and 35% of the provisioning items were accompanied by an Item Name Card. This is probably due to the nonavailability of technical data for nonprovisioning items.

An analysis was then performed on Populations 0, 1, and 2. The proportion of transactions within these populations were similar for the submitting and receiving activities. However, a comparison of the populations with each other indicated certain differences as shown in Figure I-13.

POPULATION COMPARISON
(Percent of Column Total)

Transaction Type	Population		
	0	1	2
Request	39%	35%	47%
Catalog	10	12	9
Advice	36	36	35
Offer	1	1	1
Followup	8	9	5
Response	6	7	3
Total	100%	100%	100%

Source: DODSSR Data Collection

Figure I-13

The ratio of requests to the total population of transactions is much higher in Population 2 than for the other populations. This is attributable to the higher number of followup and response transactions that were generated during the initial start of the new system. Some of the submitting activities generated followups for each SSR in their suspense files that had not been closed out; therefore Population 0 has a disproportionate number of followup and response transactions. In addition, one of the Services had an error in their system that caused the generation of Add Reference Number Catalog Cards which should not have been generated, since the reference numbers were already recorded in the Federal Catalog Files.

An analysis was also performed of the distribution of Action Taken Codes (ATCs) for each of the populations shown. This revealed that there were a number of invalid codes that were used during the initial period, that were not present in the last half

of the data collection. Some of these errors were codes that never existed and some were codes that were present under the old procedures but were not valid codes for the new procedures.

The rest of the data in the populations seems to be more comparable among the populations. However, since displaying data for Populations 0, 1, and 2 would be redundant, and since the data in Population 2 (Steady State) appears to be more reflective of the actual ongoing system for most purposes and more compatible with the data in the test populations, Population 2 was chosen as the base population for in-depth analysis and for comparison with the test populations.

b. Request Transactions

(1) Estimated Annual Volumes and Proportions

There are three basic types of request transactions that can be forwarded from a SICC (submitter) to an IMM (receiver); stock numbered items, part numbered items and permanent system control numbered items. Figure I-14 provides an estimate of the annual volume of SSRs for CIMM and WIMM items. These volumes have been projected from the eight months of data collected during the course of the study.

ESTIMATED ANNUAL GROSS SSR VOLUMES
(Number of Tranactions)

	Low	High	Average
CIMM	375,000	450,000	425,000
WIMM	7,500	15,000	9,750
Total	382,500	465,000	434,750

Source: DODSSR Data Collection

Figure I-14

These volumes were projected from the data received during the eight-month data collection period. The low, high and average were computed as shown to make allowances for fluctuations in the amount of provisioning actions during any given year, transactions not received during the data collection and erroneous transactions that were purged from the data base. The information shown includes initial requests, changes and resubmissions of requests that may have been previously rejected. Resubmissions are treated as new transactions by the receiving activity. Other analyses in this Chapter will consider the netting out of change and resubmission of transactions over the life cycle of a request.

The proportion of requests for CIMM and WIMM items is shown in Figure I-15.

SSR IMM PROPORTIONS
(Percent CIMM/WIMM)

	Low	High	Average
CIMM	96%	98%	97%
WIMM	2%	4%	3%

Source: DODSSR Data Collection

Figure I-15

The proportion of CIMM items is very high as compared with the WIMM traffic. It should be noted that under the WIMM retention procedures new items are generally retained by the provisioning activity. Part numbered SSRs are restricted to joint provisioning actions by the SSR Procedures. This results in a high retention rate for part numbered items and the high proportion of stock numbered SSRs for WIMM items as shown in Figure I-16.

SSR TRANSACTION PROPORTIONS
(Percent DIC for WIMM Items)

Type	Low	High	Average
NSN	90.0%	99.0%	94.0%
PN	0.9%	9.5%	6.0%
PSCN	0.0%	0.0%	0.0%

Source: DODSSR Data Collection

Figure I-16

The wide fluctuation of 10% in stock numbered items versus part numbered items is attributable to the influence of the timing of joint provisioning actions on the rather small number of WIMM SSRs.

By contrast, as shown in Figure I-17, the ratio of NSN to part numbered items was quite steady for all CIMM populations in the data collection with only slightly more NSN than part numbered SSRs. The actual spread may be slightly higher if changes and resubmissions were netted out, since there is a tendency to have more changes and resubmissions for part numbered items. Permanent system control items constitute a very small part of CIMM items and were nonexistent for WIMM items.

SSR TRANSACTION PROPORTIONS
(Percent DIC for CIMM Items)

Type	Low	High	Average
NSN	51.0%	53.0%	52.0%
PN	47.0%	49.0%	48.0%
PSCN	0.1%	0.2%	0.15%

Source: DODSSR Data Collection

Figure I-17

(2) Actual Volumes. The actual volumes of request transactions displayed in the next series of tables show the principal submitters and receivers of SSRs for both CIMM and WIMM items. Relationships are further shown by Component and activity separately for stock numbered, part numbered and permanent system control numbered items.

(a) CIMM

Figures I-18 and I-19 show the proportion of supply support requests by SSR submitters. The number of SSRs for the type CXA=NSN, CXB=part number or CXC=PSCN may vary by activity during any given year or month of the year. However, the system and Service totals were fairly stable over the entire data collection period.

The Air Force and Navy were the largest submitters of SSRs during the data collection period. It is not known precisely why the Army has such a relatively small number of submissions of CIMM items in relationship to the other Services. This can only be attributed to the number of ongoing provisioning actions during the time the data was collected and due to the Army criteria for generation of an SSR. Volume II points out the criteria used by each Service and activity for determining when an SSR would or would not be generated.

The Air Force and Navy submissions are heavily dominated by a few activities. SPCC in the Navy accounted for 75% of Navy SSRs while SMALC submitted 53% and WRALC accounted for 20% of the Air Force submissions. The dominance of Sacramento and Warner Robins in the Air Force can be attributed to their mission assignments at the time of the data collection. These two activities were responsible for class and weapons system assignments that resulted in more provisioning actions. Air Force

GROSS LISSR VOLUMES FROM SICC TO CIMM
(Request DIC and % of Column Total by Submitter)

Submitter	DIC			
	CXA %	CXB %	CXC %	Total %
ARRCOM	0.1%	0.3%	3.2%	0.2%
CERCOM	2.2	2.5	2.7	2.3
MIRCOM	0.8	0.4	2.1	0.6
TARCOM	0.8	1.3	0.0	1.0
TSARCOM	6.0	3.5	0.0	4.8
Army	9.9%	8.0%	8.0%	8.9%
ASO	4.9%	12.7%	2.1%	8.6%
SPCC	39.7	9.9	3.2	25.6
Navy	44.6%	22.6%	5.3%	34.2%
OCALC	0.3%	0.3%	0.0%	0.3%
OOALC	0.9	2.8	3.7	1.8
SAALC	7.6	12.5	0.0	9.9
SMALC	17.0	30.2	70.2	23.4
WRALC	4.7	13.4	0.0	8.8
Air Force	30.5%	59.2%	73.9%	44.2%
MCLSBL	6.0%	4.2%	5.9%	5.2%
MC	6.0%	4.2%	5.9%	5.2%
EGICP	0.5%	0.0%	0.0%	0.2%
SICP	0.2	0.0	0.0	0.1
AICP	0.0	0.0	0.0	0.0
CG	0.7%	0.0%	0.0%	0.3%
Other	8.3%	6.0%	6.9%	7.2%
Total	100.0%	100.0%	100.0%	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-18

GROSS LISSR VOLUMES FROM SICC TO CIMM
(Request DIC and % of Row Total by Submitter)

Submitter	DIC		
	CXA %	CXB %	CXC %
ARRCOM	17.8%	79.6%	2.6%
CERCOM	48.6	51.2	0.2
MIRCOM	71.2	28.3	0.6
TARCOM	39.4	60.6	0.0
TSARCOM	65.3	34.7	0.0
Army	57.3%	42.6%	0.1%
ASO	29.8%	70.1%	0.0%
SPCC	81.5	18.5	0.0
Navy	68.5%	31.5%	0.0%
OCALC	48.1%	51.9%	0.0%
OOALC	25.8	73.8	0.3
SAALC	40.1	59.9	0.0
SMALC	38.1	61.4	0.5
WRALC	27.7	72.3	0.0
Air Force	36.1%	63.6%	0.3%
MCLSBL	60.8%	39.0%	0.2%
MC	60.8%	39.0%	0.2%
EGICP	100.0%	0.0%	0.0%
SICP	100.0	0.0	0.0
AICP	100.0	0.0	0.0
CG	100.0%	0.0%	0.0%
Other	60.3%	39.5%	0.2%
Total	52.3%	47.6%	0.2%

Source: DODSSR Data Collection; Steady State Population

Figure I-19

policy at the time of the data collection was to require submission of SSRs by the class or residual manager as opposed to the weapons systems manager. This has since been changed to provide for submission of SSRs by the equipment manager and the submission ratios are subject to change in the future.

The high incidence of the use of PSCNs by Sacramento is not accounted for nor is it known how representative the volumes are for the Coast Guard, since that Component just started submitting SSRs during the data collection period. The "Other" row is made up primarily by activities in the Army other than the five principal Commodity Commands.

The rather low proportion of Navy of stock numbered requests by ASO as shown in Figure I-19 can be attributed in part to their criteria for generation of SSRs.

The 70/30 ratio of part numbers to NSNs by ASO is attributable in part to their criteria whereby SSRs are generated for an NSN item only when they are not currently recorded as a user on the item.

If it were not for ASO in the Navy and for the Air Force activities, the overall balance of NSNs to PNs would be heavily weighted to NSNs. The ASO reason was explained above. The Air Force submission of more part numbers than NSNs can be attributed in part to the Air Force criteria for not submitting SSRs when a candidate SSR has a replenishment quantity value of less than $1,000 and an SSR for the same item has been submitted within the last two years.

The principal receivers of CIMM SSRs are displayed in the next two tables. Figure I-20 show that DESC is the predominate receiver and processor of SSRs of all types: over 50% of the stock and part numbered items and almost 99% of the PSCN items. DISC is the next highest receiver with DCSC and DGSC roughly equivalent.

The ratio of stock and part numbered transactions among DLA centers is fairly consistent and commensurates with the overall totals of 52 and 48 percent projected under population volumes listed in Figure I-21. The ratios for GSA and TARCOM are noticeably different from the system totals.

GROSS LISSR VOLUMES FROM SICC TO CIMM
(Request DIC and % of Column Total by Receiver)

Receiver	DIC			
	CXA %	CXB %	CXC %	Total %
DCSC	9.0%	9.9%	0.0%	9.4%
DESC	55.3	52.4	98.9	54.1
DGSC	8.7	11.4	1.1	10.0
DISC	24.0	22.4	0.0	23.2
DLA	97.0%	96.1%	100.0%	96.7%
GSA	1.6%	3.4%	0.0%	2.4%
TARCOM	0.5%	0.1%	0.0%	0.3%
Other	0.9%	0.4%	0.0%	0.6%
Total	100.0%	100.0%	100.0%	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-20

The mix of types of requests by receiver is shown by Figure I-21.

GROSS LISSR VOLUMES FROM SICC TO CIMM
(Request DIC and % of Row Total by Receiver)

Receiver	DIC		
	CXA %	CXB %	CXC %
DCSC	50.0%	50.0%	0.0%
DESC	53.6	46.1	0.3
DGSC	45.5	54.5	0.0
DISC	54.0	46.0	0.0
DLA	52.5%	47.3%	0.2%
GSA	33.4%	66.6%	0.0%
TARCOM	86.0%	14.0%	0.0%
Other	72.6%	27.4%	0.0%
Total	52.3%	47.6%	0.2%

Source: DODSSR Data Collection; Steady State Population

Figure I-21

(b) WIMM

The proportions of submissions of WIMM items by Service as shown in Figure I-22 is similar to the pattern for CIMM items, with the Marine Corps slightly higher and Navy slightly lower. However, the Navy's ASO is the predominant submitter of WIMM SSRs in the Navy. The submission of WIMM SSRs is, however, somewhat clouded by the use of CIMM document identifier codes for WIMM items.

GROSS LISSR VOLUMES FROM SICC TO WIMM
(Request DIC and % of Column Total by Submitter)

	DIC			
Submitter	WXA %	WXB %	WXC %	Total %
ARRCOM	0.9%	4.8%	0.0%	0.9%
CERCOM	2.3	0.0	0.0	2.3
MIRCOM	2.0	0.0	0.0	1.9
TARCOM	0.5	0.0	0.0	0.5
TSARCOM	7.2	33.3	0.0	7.5
Army	12.9%	38.1%	0.0%	13.1%
ASO	28.7%	0.0%	0.0%	28.7%
SPCC	0.2	0.0	0.0	0.2
Navy	28.9%	0.0%	0.0%	28.9%
OCALC	0.0%	0.0%	0.0%	0.0%
OOALC	0.5	0.0	0.0	0.5
SAALC	8.7	0.0	0.0	8.6
SMALC	18.7	0.0	0.0	18.5
WRALC	15.9	0.0	0.0	15.7
Air Force	43.8%	0.0%	0.0%	43.3%
MCLSBL	11.4%	61.9%	0.0%	11.8%
MC	11.4%	61.9%	0.0%	11.8%
EGICP	0.0%	0.0%	0.0%	0.0%
SICP	0.3	0.0	0.0	0.3
AICP	0.4	0.0	0.0	0.4
CG	0.7%	0.0%	0.0%	0.7%
Other	2.3%	0.0%	0.0%	2.2%
Total	100.0%	100.0%	100.0%	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-22

Figure I-23 confirms the low usage of part numbered SSRs for WIMM items. It is interesting to note than neither the Air Force nor Navy submitted any part numbered SSRs during the sample period. However, this is consistent with the total population of data collected since the percentage for part numbers in the total population for Navy was 0.1% and 0.5% for Air Force.

GROSS LISSR VOLUMES FROM SICC TO WIMM
(Request DIC and % of Row Total by Submitter)

Submitter	DIC WXA %	DIC WXB %	DIC WXC %
ARRCOM	95.2%	4.8%	0.0%
CERCOM	100.0	0.0	0.0
MIRCOM	100.0	0.0	0.0
TARCOM	100.0	0.0	0.0
TSARCOM	95.9	4.1	0.0
Army	97.3%	2.7%	0.0%
ASO	100.0%	0.0%	0.0%
SPCC	100.0	0.0	0.0
Navy	100.0%	0.0%	0.0%
OCALC	0.0%	0.0%	0.0%
OOALC	100.0	0.0	0.0
SAALC	100.0	0.0	0.0
SMALC	100.0	0.0	0.0
WRALC	100.0	0.0	0.0
Air Force	100.0%	0.0%	0.0%
MCLSBL	95.2%	4.8%	0.0%
MC	95.2%	4.8%	0.0%
EGICP	0.0%	0.0%	0.0%
SICP	100.0	0.0	0.0
AICP	100.0	0.0	0.0
CG	100.0%	0.0%	0.0%
Other	100.0%	0.0%	0.0%
Total	99.1%	0.9%	0.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-23

The principal receivers of WIMM SSRs are shown in Figure I-24.

GROSS LISSR VOLUMES FROM SICC TO WIMM
(Request DIC and % of Column Total by Receiver)

Receiver	DIC			
	WXA %	WXB %	WXC %	Total %
ARRCOM	3.4%	57.1%	0.0%	3.9%
CERCOM	13.0	38.1	0.0	13.2
MIRCOM	3.7	0.0	0.0	3.7
TARCOM	10.0	4.8	0.0	10.0
TSARCOM	4.2	0.0	0.0	4.1
Army	34.3%	100.0%	0.0%	34.9%
ASO	13.6%	0.0%	0.0%	13.5%
SPCC	20.4	0.0	0.0	20.2
Navy	34.0%	0.0%	0.0%	33.7%
OCALC	3.7%	0.0%	0.0%	3.7%
OOALC	3.6	0.0	0.0	3.5
SAALC	7.1	0.0	0.0	7.0
SMALC	3.3	0.0	0.0	3.3
WRALC	7.7	0.0	0.0	7.6
Air Force	25.4%	0.0%	0.0%	25.1%
MCLSBL	3.9%	0.0%	0.0%	3.9%
MC	3.9%	0.0%	0.0%	3.9%
Other	2.4%	0.0%	0.0%	2.4%
Total	100.0%	100.0%	100.0%	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-24

The receipt of NSN SSRs is fairly well split up among the Army, Navy and Air Force in the steady state population, which is representative of the entire data collection period. The figures for part number items although representative for Army and Air Force indicate no part number SSRs for Navy. Part number SSRs for WIMM items are heavily affected by when joint provisioning actions occur. The Navy did receive 308 part number SSRs during the first half of the data collection period. The

population of part number SSRs for WIMM items is so small that any concentration of the presence or absence of them during a particular period tends to distort the overall picture of their occurrence.

Figure I-25 is displayed merely to confirm the wide variability and low usage of part numbered SSRs for WIMM items.

GROSS LISSR VOLUMES FROM SICC TO WIMM
(Request DIC and % of Row Total by Receiver)

Receiver	DIC		
	WXA %	WXB %	WXC %
ARRCOM	86.5%	13.5%	0.0%
CERCOM	97.3	2.7	0.0
MIRCOM	100.0	0.0	0.0
TARCOM	99.6	0.4	0.0
TSARCOM	100.0	0.0	0.0
Army	97.4%	2.6%	0.0%
ASO	100.0%	0.0%	0.0%
SPCC	100.0	0.0	0.0
Navy	100.0%	0.0%	0.0%
OCALC	100.0%	0.0%	0.0%
OOALC	100.0	0.0	0.0
SAALC	100.0	0.0	0.0
SMALC	100.0	0.0	0.0
WRALC	100.0	0.0	0.0
Air Force	100.0%	0.0%	0.0%
MCLSBL	100.0%	0.0%	0.0%
MC	100.0%	0.0%	0.0%
Other	100.0%	0.0%	0.0%
Total	99.1%	0.9%	0.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-25

c. Catalog Transactions

Catalog transactions may accompany a request transaction to provide additional technical or catalog type data. Figure I-26 indicates the ratio of the different types of catalog cards to request transactions. Catalog cards are used only for CIMM items.

RATIO OF CATALOG TO REQUEST TRANSACTIONS (CIMM)

DIC	Title	% Requests
CXF	Item Name	31.7 1/
CXG	Add Reference No.	5.2
CXK	Add User	0.2 2/

Source: DODSSR Data Collection

1/ Percentage of part number requests only.
2/ Used in joint provisioning only.

Figure I-26

Item name cards are required for part numbered items when no technical data has been submitted for the item being requested. The 31.7% frequency indicates the relative percent of the time that technical data was not provided. This is not inconsistent with the 34% of the time technical data was reported not available in Figure I-127, using the code to advise nonavailability of technical data. However, some of the systems generate item name cards when the SSR is generated. If technical data is available, the procedures require the card to be pulled prior to forwarding the SSR. Sometimes the card is not pulled even though technical data is supplied. The item name is a critical data element that is needed to obtain a stock number, regardless of whether it is obtained from an item name card or from the technical data itself.

Add Reference Number cards may be submitted at the option of the submitting activity. The CXG cards are sometimes submitted for stock numbered items that already have the additional reference number recorded on the Federal Catalog Files. Additional reference numbers submitted are not generally researched by the submitting activity prior to submission. Receiving activities will screen the additional number with DLSC and add the item if a match is made. If no DLSC match is found, the item will generally be added unless there is something in the technical data supplied by the submitter that indicates that the

item is a different item of supply. The presumption is made that the additional reference number is good unless there is something to the contrary found in the technical data supplied by the submitter. Based upon the low usage of the CXG, the lack of screening on the part of the submitter, and the presumption of validity on the part of the receiving activity, the CXG transaction should be considered for elimination entirely, or the reference number data element should be merged with another transaction.

The CXK Add User transaction is only used during joint provisioning actions. The extremely low usage rate does not appear to justify a separate transaction to convey this information. This transaction should be considered for elimination. The add user action could be taken by the SICC directly with DLSC (since the add user action is taken automatically by the IMM anyway) or this data element could be merged in with another transaction type.

Figures I-27 and I-28 show the breakdown of the submission of catalog transactions by submitter and receiver.

(1) Submitter. The submission of any of the types of catalog cards can vary significantly by activity and/or period of time. The frequency of usage is affected by the system and procedures of the Services and by particular activities within a Service as well. The data in the figure is based upon the steady state period. For any other period for a particular activity the percentage could vary. However, the overall percentages for the total system shown in Figure I-26 above are quite stable.

(2) Receiver

The data for catalog cards by receiver shown in Figure I-28 are somewhat reflective of the volumes of SSRs received by the Components. The 8.2% of the total for GSA is much higher than the 2.4% of the total requests received by GSA as shown in Figure I-20. However, GSA does receive a greater number of part numbered requests 66.6% than the system total of 47.6% shown in Figure I-21. In addition, GSA indicated during field research that the lack of receipt of technical data was a major problem.

The number of CXG and CXK cards are so small and vary so much by time period and submitting activity that it is difficult to draw any conclusions on an activity or Service basis; however, the statistics for these transactions are fairly stable in any period when considered on a total system basis.

LISSR VOLUMES FROM SICC TO CIMM
(Catalog DIC and % of Column Total by Submitter)

Submitter	DIC			
	CXF %	CXG %	CXK %	Total %
ARRCOM	0.0%	0.0%	0.0%	0.0%
CERCOM	3.6	1.4	13.3	3.2
MIRCOM	0.2	0.9	0.0	0.4
TARCOM	1.2	3.3	0.2	1.7
TSARCOM	10.6	0.4	0.2	7.8
Army	15.6%	6.0%	13.7%	13.1%
ASO	6.2%	26.8%	0.0%	11.3%
SPCC	24.1	29.0	3.7	25.0
Navy	30.3%	55.8%	3.7%	36.3%
OCALC	0.0%	0.0%	0.0%	0.0%
OOALC	6.2	0.0	0.0	4.5
SAALC	10.5	6.8	0.0	9.4
SMALC	9.9	0.1	26.6	7.7
WRALC	18.3	6.5	0.0	15.0
Air Force	44.9%	13.4%	26.6%	36.6%
MCLSBL	4.7%	11.2%	0.9%	6.3%
MC	4.7%	11.2%	0.9%	6.3%
EGICP	0.0%	0.0%	21.8%	0.4%
SICP	0.0	0.0	33.3	0.6
AICP	0.0	0.0	0.0	0.0
CG	0.0%	0.0%	55.1%	1.0%
Other	4.5%	13.6%	0.0%	6.7%
Total	100.0%	100.0%	100.0%	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-27

LISSR VOLUMES FROM SICC TO CIMM
(Catalog DIC and % of Column Total by Receiver)

Receiver	DIC			
	CXF %	CXG %	CXK %	Total %
DCSC	16.7%	13.8%	8.3%	15.8%
DESC	32.1	54.5	55.7	38.1
DGSC	12.0	11.2	12.6	11.8
DISC	27.6	19.6	23.2	25.5
DLA	88.4%	99.1%	99.8%	91.2%
GSA	8.2%	0.8%	0.0%	6.2%
TARCOM	0.1%	0.1%	0.0%	0.1%
Other	3.3%	0.0%	0.2%	2.5%
Total	100.0%	100.0%	100.0%	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-28

d. Line Item Advice Transactions

Line Item Advice Cards (LIACs) are used by both submitters and receivers of supply support requests to reflect actions taken on request transactions. The statistics in this section are arrayed by type of advice transaction and are shown by both submitter (SICC) and receiver (IMM). Since advice cards are related and provide information on request transactions the use of submitter in the tables relates to the submitter of the request transaction not the advice transaction. The same is true for the use of receiver; this means the receiver and processor of the request transaction not the receiver of the advice.

There is only one series of document identifier codes for advice transactions for both CIMM and WIMM items. Both CIMM and WIMM LIACs are shown together; however, except for TARCOM and DISC, CIMM and WIMM counts can be determined by activity and volume relationships. TARCOM is the only Service with a CIMM mission and DISC is the only Center with a WIMM mission.

(1) CX1 Advice Transactions

Figure I-29 shows the steady state volumes of transactions. The volume and relative proportions for activity and Component are similar to their respective request transaction volumes, since a CX1 provides advice on action taken on a request transaction.

GROSS LIAC VOLUMES
(CX1 Advice by Submitter/Receiver)

Activity/ Component	Submitter (SICC)		Receiver (IMM)	
	Number	Percent	Number	Percent
ARRCOM	164	0.2%	81	0.1%
CERCOM	1,797	2.1	260	0.3
MIRCOM	647	0.8	41	0.0
TARCOM	1,201	1.4	98	0.1
TSARCOM	3,957	4.6	36	0.0
Army	7,766	9.1%	516	0.5%
ASO	4,025	4.7%	683	0.8%
SPCC	27,779	32.5	318	0.4
Navy	31,804	37.2%	1,001	1.2%
OCALC	386	0.5%	11	0.0%
OOALC	392	0.5	52	0.1
SAALC	8,751	10.2	106	0.1
SMALC	17,387	20.4	42	0.0
WRALC	5,709	6.7	144	0.2
Air Force	32,625	38.3%	355	0.4%
MCLSBL	5,871	6.9%	56	0.1%
MC	5,871	6.9%	56	0.1%
EGICP	260	0.3%	0	0.0%
SICP	137	0.2	2	0.0
AICP	13	0.0	1	0.0
CG	410	0.5%	3	0.0%
DCSC	0	0.0%	10,771	12.6%
DESC	490	0.6	42,002	49.2
DGSC	127	0.1	10,402	12.2
DISC	28	0.0	19,436	22.8
DLA	645	0.7%	82,611	96.8%
GSA	0	0.0%	819	1.0%
Other	6,275	7.3%	35	0.0%
Total	85,396	100.0%	85,396	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-29

The General Services Administration does not submit SSRs, so naturally there are no volumes shown for them as a submitter. The Coast Guard started submitting SSRs during the data collection period. The Coast Guard does not have a role as an IMM, so the three transactions are classified as error transactions. The volumes for the DLA Centers as submitters represent requirements for base supply operations.

(2) CX2 Reply to Offer Transactions

The volume of reply transactions is shown in Figure I-30. The system total number of reply transactions is extremely small; however, the system total percentage of offer transactions approximates 5%. The volumes of reply transactions also vary by activity. The steady state population is quite representative proportionately except for the Navy. During the transition period the Navy sent 13% of the CX2 transactions.

The volume of offers by GSA may seem low as a system total, but it is consistent with their low percentage of requests received in comparison with DLA. The low volume for the Services as receivers is consistent with the high incidence of stock numbered requests for WIMM items and the low incidence of offers on stock numbered items.

(3) CX3 Followup Transactions

Followup transactions are sent from a SICC to an IMM when the SICC has not received advice on a previous request. Figure I-31 displays the number and percent of followups sent and received during the steady state period. Followups are shown for both CIMM and WIMM items together.

The data is consistent with data for the entire data collection period except for the Air Force. During the first half of the data collection period, the Air Force sent over 86% of all the followups. Part of the reason for this is that the Air Force sent a followup for any suspense record that was not complete at the time of the conversion to the new system. The 73% followup submission rate during the steady state period is still significantly high when compared to the other submitters. This is attributable in part to the Air Force system design for creation of the Date of Request (DOR). The DOR is created by the computer on the date the SSR is generated. The SSRs then are sent to functional area for matching with technical data for part numbered items and for packaging and mailing of all SSRs. The followup is generated 40 days for NSN items and 75 days for part numbered items after the DOR, if the SSR is not listed as complete in the suspense file. The time to select drawings and mail the SSRs coupled with the mail time and the 25-day process time allowed the SSR Procedures frequently exceed the

<u>GROSS LIAC VOLUMES</u>
(CX2 Reply to Offer by Submitter/Receiver)

Activity/ Component	Submitter (SICC)		Receiver (IMM)	
	Number	Percent	Number	Percent
ARRCOM	1	0.1%	0	0.0%
CERCOM	1	0.1	0	0.0
MIRCOM	6	0.5	0	0.0
TARCOM	0	0.0	1	0.1
TSARCOM	1	0.1	0	0.0
Army	9	0.8%	1	0.1%
ASO	0	0.0%	0	0.0%
SPCC	2	0.2	0	0.0
Navy	2	0.2%	0	0.0%
OCALC	0	0.0%	0	0.0%
OOALC	0	0.0	0	0.0
SAALC	44	3.9	0	0.0
SMALC	873	78.1	0	0.0
WRALC	92	8.2	0	0.0
Air Force	1,009	90.2%	0	0.0%
MCLSBL	88	7.9%	0	0.0%
MC	88	7.9%	0	0.0%
EGICP	0	0.0%	0	0.0%
SICP	0	0.0	0	0.0
AICP	0	0.0	0	0.0
CG	0	0.0%	0	0.0%
DCSC	0	0.0%	8	0.7%
DESC	0	0.0	954	85.3
DGSC	0	0.0	100	8.9
DISC	0	0.0	51	4.6
DLA	0	0.0%	1,113	99.5%
GSA	0	0.0%	3	0.3%
Other	10	0.9%	1	0.1%
Total	1,118	100.0%	1,118	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-30

GROSS LIAC VOLUMES
(CX3 Followup by Submitter/Receiver)

Activity/ Component	Submitter (SICC)		Receiver (IMM)	
	Number	Percent	Number	Percent
ARRCOM	22	0.2%	86	0.8%
CERCOM	0	0.0	32	0.3
MIRCOM	0	0.0	16	0.1
TARCOM	14	0.1	70	0.6
TSARCOM	8	0.1	48	0.4
Army	44	0.4%	252	2.2%
ASO	2,875	25.3%	199	1.8%
SPCC	0	0.0	294	2.6
Navy	2,875	25.3%	493	4.4%
OCALC	0	0.0%	55	0.5%
OOALC	655	5.8	47	0.4
SAALC	2,077	18.3	64	0.6
SMALC	3,383	29.7	18	0.2
WRALC	2,213	19.5	50	0.4
Air Force	8,328	73.3%	234	2.1%
MCLSBL	72	0.6%	42	0.4%
MC	72	0.6%	42	0.4%
EGICP	0	0.0%	0	0.0%
SICP	0	0.0	2	0.0
AICP	0	0.0	0	0.0
CG	0	0.0%	2	0.0%
DCSC	0	0.0%	597	5.3%
DESC	0	0.0	5,008	43.9
DGSC	0	0.0	337	3.0
DISC	0	0.0	3,691	32.5
DLA	0	0.0%	9,633	84.7%
GSA	0	0.0%	678	6.0%
Other	40	0.4%	25	0.2%
Total	11,359	100.0%	11,359	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-31

35-day timeframe allowed by the procedures on which the followups are based; therefore, there is not always sufficient time allowed to permit an advice transaction to be received from the IMM. The followup procedures in the automated systems in the Army and Navy allow about two weeks to permit the selection of drawings and mailing of SSRs.

The data for receipt of followups generally appears to match the volume of requests from CIMM items. However, the volume of followups for DISC and GSA are significantly higher than the proportion of requests that they received. WIMM requests account for 0.2% of the combined total of CIMM and WIMM requests; however, the number of followups for WIMM items was approximately 9% of the total. The relation of followups to responses is discussed in the next section. The relation of followups to transmission and processing times and to delinquency rates is discussed in the life cycle network analysis later on in this Chapter.

(4) CX4 Response to Followup Transactions. Responses to followups are required to be provided by the IMM within 15 days after the receipt of a followup. The proportions of responses in Figure I-32 will not necessarily match precisely the proportions of followups in Figure I-31 due to the cutoff for the data collection and the varying procedures among the submitters and receivers of SSRs for the use of automated processing and AUTODIN transmission for LIAC transactions. Response transactions are shown here to depict the relative volumes in relation to requests and followups. The volume data shown here also provides a basis for further analysis under Action Taken Code Analysis and the Life Cycle Network Analysis.

4. Advice Analysis. Line Item Advice Cards (LIACs) are used by both submitters and receivers of SSRs to reflect actions taken on request transactions. Types of LIACs and advice categories were discussed in detail in Chapter IV, Volume I. There are 70 different Action Taken Codes listed in Appendix E of the SSR Procedures. An Action Taken Code (ATC) is a two-character alphabetic or numeric code to identify advice being provided in LIACs. The ATCs are used in CX1, CX2, and CX4 advice cards. One of the original problems reported by the SPG was a high reject rate of SSRs. This section provides an analysis of ATCs by category and individual ATC to ascertain the extent and scope of the problem; and to develop improvements where necessary.

a. Advice Categories

The SSR Procedures do not specifically group advice codes (ATCs) by category. The nature of the advice must be determined by type of advice card in which it appears, using the document identifier code and the definition of the ATC associated with

GROSS LIAC VOLUMES
(CX4 Response to Followup by Submitter/Receiver)

Activity/ Component	Submitter (SICC)		Receiver (IMM)	
	Number	Percent	Number	Percent
ARRCOM	13	0.2%	38	0.6%
CERCOM	0	0.0	2	0.0
MIRCOM	0	0.0	0	0.0
TARCOM	6	0.1	7	0.1
TSARCOM	8	0.1	6	0.1
Army	27	0.4%	53	0.8%
ASO	316	4.8%	0	0.0%
SPCC	0	0.0	4	0.1
Navy	316	4.8%	4	0.1%
OCALC	0	0.0%	0	0.0%
OOALC	129	2.0	0	0.0
SAALC	1,818	27.5	5	0.1
SMALC	2,716	40.9	1	0.0
WRALC	1,500	22.7	6	0.1
Air Force	6,163	93.1%	12	0.2%
MCLSBL	70	1.1%	2	0.0%
MC	70	1.1%	2	0.0%
EGICP	0	0.0%	0	0.0%
SICP	0	0.0	0	0.0
AICP	0	0.0	0	0.0
CG	0	0.0%	0	0.0%
DCSC	0	0.0%	440	6.7%
DESC	0	0.0	3,083	46.5
DGSC	0	0.0	255	3.9
DISC	0	0.0	2,719	41.1
DLA	0	0.0%	6,497	98.2%
GSA	0	0.0%	45	0.7%
Other	37	0.6%	0	0.0%
Total	6,613	100.0%	6,613	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-32

the document identifier code. The number of the advice codes (70) and the definitions have been confusing to submitters and receivers of SSRs in attempting to categorize the type of advice being received. This is particularly true in attempting to classify an item as being initially accepted, finally accepted, rejected due to a validation error, rejected due to improper FSC or manager assignment or for other reasons. The study team performed an analysis of the codes and the definitions and grouped the codes into logical categories in order to generate reports and analyze the types of advice being provided. Figure I-33 groups the ATCs into five major categories. Because of the large number of codes, the Reject Category is further broken down into logical subgroups.

ATC CATEGORIZATIONS

ATC Category	Individual ATCs	Number ATCs	Percent Total
Accept	YA, YB, YD, YE, YX	5	7.1
Offer	YL, YQ	2	2.9
Pending	64, 67, 99 1/	3	2.9
Reject			
- FSC/Manager	YC, YK, 03, 11, 17, 41, 60, 63	8	11.4
- NSN/PSCN	YH, YJ, YR, YU, YW, 33, 34, 35, 45, 62, 68	11	15.7
- Catalog/Technical Data	YS, 02, 09, 13, 14, 19, 21, 44 70	9	12.9
- Invalid Data	01, 04, 05, 07, 18, 23, 24, 25, 28, 30, 31, 32, 38, 39, 40, 52, 56, 59	19	27.0
- Match/Dup	42, 51, 58, 66 2/	4	5.7
- Procurement	12, 20, 22	3	4.3
- Other	08, 36, 57	3	4.3
Total Rejects		57	81.3
Replies to Offers			
- Accept	YM, YV	2	2.9
- Reject	YP, YN	2	2.9
Total Replies to Offer		4	5.8
Grand Total		71 3/	

Source: SSR Procedures

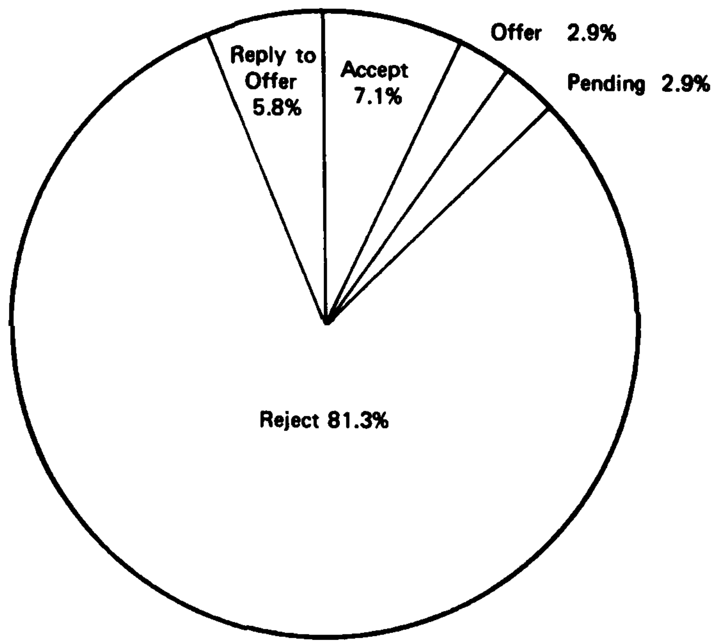
1/ ATC 99 established for AUTODIN Test only.
2/ ATC 66 used only on CX4 responses.
3/ Pending total is 2 and grand total is 70 when ATC 99 is excluded.

Figure I-33

SSR submitters and receivers complained during field research about the number of different ATCs and their definitions, indicating that they had a difficult time understanding the different types of advice. They appeared to be particularly confused over the question of when an SSR was accepted and when it was rejected; and whether the SSR was rejected for validation or action reasons. They could not understand why there were so many reject codes as compared to those for acceptance.

Figure I-34 summarizes the ATCs in Figure I-33 into the relative proportion for each of the major categories.

ATC PROPORTIONS



Source: SSR Procedures, Appendix E

Figure I-34

This pie chart dramatically depicts the overwhelming number of ATCs available to be assigned to reject a supply support request (81.3%) as compared with ATCs available to be assigned to accept a request (7.1%). It must be emphasized that these are the codes that are available to be assigned and do not reflect the actual percentages of acceptances and rejects that occur in practice.

The categorizations in Figure I-33 were used in tables in computer programs to generate reports to show the actual occurrence of the different categories of ATCs and of individual ATCs. The results of this analysis are shown below.

(1) CIMM

(a) Submitter/ SICC

The statistics shown in this section were derived from the transactions submitted during the DODSSR Data Collection. CX1, CX2 and CX4 advice transactions were matched up with their respective request transactions using control data elements. This was done to determine if there was any difference in patterns for NSN, part number and permanent system control number requests. The request and advice transactions were further identified to the activities submitting the request (submitter/SICC) and those receiving the request but submitting the advice (Receiver/IMM). The table shown in Figure I-33 was used to categorize advice and to compute percentages. Category percentages were computed by dividing the number of occurrences in the category by the row total of occurrences for all categories. The percent of the category allocable to individual activities or Components was also computed by dividing the activity or Component occurrence for the category by the column total for all activities for the particular category. Reports showing the category percentage to total of all categories (row totals) will generally be shown with percentages within categories narratively inserted.

Figure I-35 shows the advice categories by submitting activity. The data for the steady state period was used because of the incidence of invalid codes and errors attributable to the conversion from the old to new systems. The Main Population showed a 62.8% accept and a 37.2% reject rate while the Transition Period had a 61.7% accept and 38.3% reject rate. The 67.1% accept rate and 32.9% reject rate for the Steady State Population shown in Figure I-35 reflects a more true picture of the system after elimination of errors attributable to the conversion process.

ATC ADVICE ANALYSIS BY SICC
(Number and % of Row Total for DIC CXA)

SICC	Accept No.	Accept %	Offer No.	Offer %	Pending No.	Pending %	Reject No.	Reject %	Total No.	Total %
ARRCOM	18	75.0		0.0		0.0	6	25.0	24	100.0
CERCOM	426	39.2		0.0		0.0	661	60.8	1,087	100.0
MIRCOM	371	90.3		0.0		0.0	40	9.7	411	100.0
TARCOM	270	68.2		0.0		0.0	126	31.8	396	100.0
TSARCOM	2,259	85.9		0.0		0.0	370	14.1	2,629	100.0
Army	3,344	73.5		0.0		0.0	1,203	26.5	4,547	100.0
ASO	787	74.7		0.0		0.0	266	25.3	1,053	100.0
SPCC	14,043	64.7	1	0.0		0.0	7,665	35.3	21,709	100.0
Navy	14,830	65.2	1	0.0		0.0	7,931	34.8	22,762	100.0
OCALC	99	76.2		0.0		0.0	31	23.8	130	100.0
OOALC	171	66.8		0.0		0.0	85	33.2	256	100.0
SAALC	2,482	67.0		0.0		0.0	1,220	33.0	3,702	100.0
SMALC	4,263	72.4		0.0	4	0.1	1,617	27.5	5,884	100.0
WRALC	1,400	73.4	1	0.1		0.0	506	26.5	1,907	100.0
AF	8,415	70.9	1	0.0	4	0.0	3,459	29.1	11,879	100.0
MCLSBL	2,118	70.4		0.0		0.0	890	29.6	3,008	100.0
MC	2,118	70.4		0.0		0.0	890	29.6	3,008	100.0
EGICP	130	55.8		0.0		0.0	103	44.2	233	100.0
SICP	88	84.6		0.0		0.0	16	15.4	104	100.0
AICP	2	100.0		0.0		0.0		0.0	2	100.0
CG	220	64.9		0.0		0.0	119	35.1	339	100.0
Other	1,671	54.0		0.0		0.0	1,426	46.0	3,097	100.0
Total	30,598	67.1	2	0.0	4	0.0	15,028	32.9	45,632	100.0

Source: DODSSR Data Collection; Steady State Population

Figure I-35

The DODSSR Study Team does not consider the accept and reject rates for NSN requests to be acceptable. If the submitting activity were properly screening the items with DLSC and validating transactions prior to submission, there should be only about a 1% reject rate for stock numbered items. An analysis of the reject rates shown later in this Report will indicate some of the causes of the high reject rate for NSN requests. The low percentage of occurrence for offers and pending advice is considered acceptable for NSN items; these rates were consistent throughout the data collection.

Advice for part numbered requests is shown in Figure I-36. The percentages for acceptance were within 1% of the Main and Transition Period Populations. Rejections were five to six percent higher during the early parts of the data collection due to conversion to the new procedures. The comparison of the 44% accept rate for part numbered items to the 67% accept rate for NSN items must be tempered by the 13% increase in the number of offers for part numbered items as opposed to NSN items; however, there is still an 8% higher rate of rejection of part numbered items. The 1.2% pending rate is attributable largely to ATC 99 which was established by the study group for a test conducted during the study. If this code is subtracted, the percentage for pending is less than one percent. The reject rate for part numbered items is also considered intolerable. In addition to the DLSC screening and validation reasons given above for NSN items, improper formatting of part numbers and failure to provide technical data contribute to the part number reject rate.

The report for permanent system control numbered items is not shown due to the extremely low usage of PSCN requests. There was a 69.7% acceptance and 28.6% reject rate out of a total of 119 PSCN advice transactions during the Steady State Period. Rates for PSCN items should approximate those for NSNs since these items have already been subjected to standardization actions and an NSN will be assigned immediately upon request.

The consistently low rate of less than one percent for the pending category indicates that initial advice is generally being sent out within 25 days after the receipt of the requests as recorded by the receiving IMM. IMMs are required to provide initial advice to requests within 25 days of the receipt of a request. If pending advice is submitted, advice on the supply support decision must be provided within 15 days after the use of the pending advice. The combined offer rate is relatively meaningless, since most of the offers are made for part numbered items. The combined reject rate like the individual rates for NSN, part number and PSCN items is unacceptable. A more detailed analysis of accept, offer and reject categories is provided later in this Chapter. Individual and subcategorizations are used in an attempt to isolate the reasons for the percentage rates for these categories.

ATC ADVICE ANALYSIS BY SICC
(Number and % of Row Total for DIC CXB)

SICC	Accept No.	Accept %	Offer No.	Offer %	Pending No.	Pending %	Reject No.	Reject %	Total No.	Total %
ARRCOM	41	35.3	8	6.9		0.0	67	57.8	116	100.0
CERCOM	208	31.1	102	15.2		0.0	359	53.7	669	100.0
MIRCOM	95	55.9	16	9.4		0.0	59	34.7	170	100.0
TARCOM	246	39.6	9	1.4		0.0	366	59.0	621	100.0
TSARCOM	421	35.4	20	1.7		0.0	748	62.9	1,189	100.0
Army	1,011	36.6	155	5.6		0.0	1,599	57.8	2,765	100.0
ASO	672	26.4	635	24.9		0.0	1,239	48.7	2,546	100.0
SPCC	3,369	56.3	410	6.9	1	0.0	2,201	36.8	5,981	100.0
Navy	4,041	47.4	1,045	12.3	1	0.0	3,440	40.3	8,527	100.0
OCALC	32	39.0	1	1.2		0.0	49	59.8	82	100.0
OOALC	21	24.7	1	1.2		0.0	63	74.1	85	100.0
SAALC	2,935	55.4	169	3.2		0.0	2,196	41.4	5,300	100.0
SMALC	3,816	33.3	2,755	24.1	442	3.9	4,441	38.7	11,454	100.0
WRALC	1,651	39.3	356	8.5		0.0	2,198	52.2	4,205	100.0
AF	8,455	40.0	3,282	15.5	442	2.1	8,947	42.4	21,126	100.0
MCLSBL	1,728	68.1	202	8.0		0.0	605	23.9	2,535	100.0
MC	1,728	68.1	202	8.0		0.0	605	23.9	2,535	100.0
EGICP		0.0		0.0		0.0		0.0		0.0
SICP		0.0		0.0		0.0		0.0		0.0
AICP		0.0		0.0		0.0		0.0		0.0
CG		0.0		0.0		0.0		0.0		0.0
Other	1,497	55.7	251	9.3		0.0	942	35.0	2,690	100.0
Total	16,732	44.4	4,935	13.1	443	1.2	15,533	41.3	37,643	100.0

Source: DODSSR Data Collection; Steady State Population

Figure I-36

The total for all requests is shown in Figure I-37 for comparison with those for NSN and part numbered items.

ATC ADVICE ANALYSIS BY SICC
(Summary of No. and % of Row Total for DICs CXA/B/C)

SICC	Accept		Offer		Pending		Reject		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
ARRCOM	68	45.6	8	5.4		0.0	73	49.0	149	100.0
CERCOM	637	36.2	102	5.8		0.0	1,021	58.0	1,760	100.0
MIRCOM	469	80.2	16	2.7		0.0	100	17.1	585	100.0
TARCOM	516	50.7	9	0.9		0.0	492	48.4	1,017	100.0
TSARCOM	2,680	70.2	20	0.5		0.0	1,118	29.3	3,818	100.0
Army	4,370	59.6	155	2.1		0.0	2,804	38.3	7,329	100.0
ASO	1,460	40.6	635	17.6		0.0	1,505	41.8	3,600	100.0
SPCC	17,415	62.9	412	1.5	1	0.0	9,867	35.6	27,695	100.0
Navy	18,875	60.4	1,047	3.3	1	0.0	11,372	36.3	31,295	100.0
OCALC	131	61.8	1	0.5		0.0	80	37.7	212	100.0
OOALC	192	56.3	1	0.3		0.0	148	43.4	341	100.0
SAALC	5,417	60.2	169	1.9		0.0	3,416	37.9	9,002	100.0
SMALC	8,130	46.7	2,756	15.8	446	2.6	6,077	34.9	17,409	100.0
WRALC	3,051	50.0	357	5.8		0.0	2,704	44.2	6,112	100.0
AF	16,921	51.2	3,284	9.9	446	1.3	12,425	37.6	33,076	100.0
MCLSBL	3,856	69.4	202	3.6		0.0	1,499	27.0	5,557	100.0
MC	3,856	69.4	202	3.6		0.0	1,499	27.0	5,557	100.0
EGICP	130	55.8		0.0		0.0	103	44.2	233	100.0
SICP	88	84.6		0.0		0.0	16	15.4	104	100.0
AICP	2	100.0		0.0		0.0		0.0	2	100.0
CG	220	64.9		0.0		0.0	119	35.1	339	100.0
Other	3,171	54.7	251	4.3		0.0	2,376	41.0	5,798	100.0
Total	47,413	56.9	4,939	5.9	447	0.5	30,595	36.7	83,394	100.0

Source: DODSSR Data Collection; Steady State Population

Figure I-37

(b) Receiver/IMM

Figures I-38 and I-39 displays statistics for CIMM advice by IMM. TARCOM and GSA have the highest acceptance and lowest reject rates of all activities, although the volumes of advice are relatively low. Because of its volume, DLA dominates the percentages and the averages for DLA approximates the average totals. However, within DLA there are significant variances from the averages that are attributed to activity differences. Particularly notable are the acceptance and reject rates for DCSC and DGSC with DCSC having the highest acceptance rates and lowest reject rates and DGSC having the lowest accept and highest reject rates in DLA for NSN items. The rates for TARCOM and GSA are attributed to the low volumes and manual processing. Under such conditions the receiving activity can manually correct or ignore minor errors not absolutely essential to processing. It is still notable that no activity or Component has an accept ratio higher than 90% or a reject rate less than 10%.

The accept/reject rates for TARCOM are based upon too small a sample to be significant. Either TARCOM receives few part number requests for CIMM items or the items are being sent as WIMM requests. The low accept and high reject rate for GSA part numbered items is explainable in part due to the complaint by GSA during field research about the lack of technical data. Once again, DCSC has the low and DGSC the high reject rates among DLA activities. The high number of offers by DESC does have a potential effect upon its acceptance rate but would not tend to have an effect upon its reject rate. It should be noted that DESC accounts for over 83% of all the offers for part numbered items. Since the offer analysis shown below indicates a high rate of acceptance of offers, this would tend to increase the acceptance rates for those activities with a high percentage of offers.

Receiver statistics for PSCN items are not shown due the low volume of requests for this type of item. It should be noted; however, that DESC receives about 90% of all the PSCN items. Acceptance and reject totals are the same as for the submitter reports.

ATC ADVICE ANALYSIS BY IMM
(Number and % of Row Total for DIC CXA)

CIMM	Accept		Offer		Pending		Reject		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
TARCOM	299	83.2	1	0.3	6	1.7	53	14.8	359	100.0
Army	299	83.2	1	0.3	6	1.7	53	14.8	359	100.0
DCSC	6,210	69.0	0	0.0	0	0.0	2,784	31.0	8,994	100.0
DESC	45,856	60.8	0	0.0	0	0.0	29,523	39.2	75,379	100.0
DGSC	5,836	53.5	0	0.0	7	0.1	5,061	46.4	10,904	100.0
DISC	17,527	67.8	0	0.0	0	0.0	8,338	32.2	25,865	100.0
DLA	75,429	62.3	0	0.0	7	0.0	45,706	37.7	121,142	100.0
GSA	1,719	85.6	2	0.1	0	0.0	286	14.3	2,007	100.0
Other	140	70.0	0	0.0	1	0.5	59	29.5	200	100.0
Total	77,587	62.7	3	0.0	14	0.0	46,104	37.3	123,708	100.0

Source: DODSSR Data Collection; Main Population

Figure I-38

ATC ADVICE ANALYSIS BY IMM
(No. and % of Row Total for DIC CXB)

CIMM	Accept		Offer		Pending		Reject		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
TARCOM	2	1.9	0	0.0	0	0.0	104	98.1	106	100.0
Army	2	1.9	0	0.0	0	0.0	104	98.1	106	100.0
DCSC	9,259	64.9	199	1.4	0	0.0	4,812	33.7	14,270	100.0
DESC	19,226	32.2	10,109	16.9	4	0.0	30,400	50.9	59,739	100.0
DGSC	4,675	33.2	739	5.2	444	3.2	8,226	58.4	14,084	100.0
DISC	17,625	59.7	901	3.0	15	0.1	11,002	37.2	29,543	100.0
DLA	50,785	43.2	11,948	10.2	463	0.4	54,440	46.2	117,636	100.0
GSA	725	29.1	220	8.8	0	0.0	1,545	62.1	2,490	100.0
Other	13	61.9	0	0.0	0	0.0	8	38.1	21	100.0
Total	51,525	42.8	12,168	10.1	463	0.4	56,097	46.7	120,253	100.0

Source: DODSSR Data Collection, Main Population

Figure I-39

Receiver statistics for all requests for CIMM items are shown in Figure I-40. Activity and Component averages are much more stable and similar to the average totals than when shown separately for NSN and part number requests. When all requests are considered TARCOM still has the lowest reject rate while GSA and DLA have reject rates that approximate the average. There is still a wide variance among DLA Supply Centers, though, with Construction continuing to have the lowest and General the highest reject rates.

(2) WIMM

(a) Submitter/SICC

Advice statistics for WIMM items are shown in Figure I-41. This table shows counts for both part number and NSN items, since there were no PSCN items for WIMM items in the data collection and the sample of part numbered items alone in this sample was too small to show separately. In comparing this table with the CIMM NSN statistics, the 81.4% accept/17.1% reject rates are much better than the 67.1%/32.9% rates for CIMM items. However, the volume of traffic for WIMM advice is only 0.4% of the CIMM/WIMM total advice. Also, WIMM SSRs are generally for stock numbered items, are processed manually and the only data elements in the SSR generally given serious consideration for the purpose of making an accept or reject decision are the stock number and the Major Organizational Entity (MOE) Rule. Validation errors are generally corrected or ignored. The accept and reject rates by Component approximate the average totals while there are fluctuations by activity attributable to sample size and activity variations.

(b) Receiver/IMM. The receiver statistics for SSR advice parallel those for the submitter. The Component averages approach the system totals while there are activity fluctuations. Figure I-42 indicates that CERCOM in the Army with a 7.3% reject rate is the first indication of an activity with a sizable volume that has a reject rate less than 10%. SPCC in the Navy has the highest reject rate. There are very few offers for WIMM items since only stock numbered SSRs are submitted except for joint provisioning actions. The number of part numbered items is so small that they are considered together with NSNs in this table.

ATC ADVICE ANALYSIS BY IMM
(Summary of No. and % of Row Total for DICs CXA/B/C)

CIMM	Accept		Offer		Pending		Reject		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
TARCOM	301	64.7	1	0.2	6	1.3	157	33.8	465	100.0
Army	301	64.7	1	0.2	6	1.3	157	33.8	465	100.0
DCSC	15,469	66.4	199	0.9	0	0.0	7,599	32.7	23,267	100.0
DESC	65,258	48.2	10,113	7.5	4	0.0	60,040	44.3	135,415	100.0
DGSC	10,513	42.1	739	3.0	451	1.8	13,292	53.1	24,995	100.0
DISC	35,168	63.5	901	1.6	15	0.0	19,350	34.9	55,434	100.0
DLA	126,408	52.9	11,952	5.0	470	0.2	100,281	41.9	239,111	100.0
GSA	2,444	54.4	222	4.9	0	0.0	1,831	40.7	4,497	100.0
Other	153	69.2	0	0.0	1	0.5	67	30.3	221	100.0
Total	129,306	52.9	12,175	5.0	477	0.2	102,336	41.9	244,294	100.0

Source: DODSSR Data Collection; Main Population

Figure I-40

ATC ADVICE ANALYSIS BY SUBMITTER
(Summary of No. and % of Row Total for DICs WXA/B)

SICC	Accept No.	Accept %	Offer No.	Offer %	Pending No.	Pending %	Reject No.	Reject %	Total No.	Total %
ARRCOM	11	91.7		0.0		0.0	1	8.3	12	100.0
CERCOM	5	38.5		0.0		0.0	8	61.5	13	100.0
MIRCOM	15	93.7		0.0		0.0	1	6.3	16	100.0
TARCOM	2	66.7		0.0		0.0	1	33.3	3	100.0
TSARCOM	78	83.0		0.0		0.0	16	17.0	94	100.0
Army	111	80.4		0.0		0.0	27	19.6	138	100.0
ASO	340	82.6	1	0.2	2	0.5	69	16.7	412	100.0
SPCC	2	100.0		0.0		0.0		0.0	2	100.0
Navy	342	82.6	1	0.2	2	0.5	69	16.7	414	100.0
OCALC		0.0		0.0		0.0		0.0		0.0
OOALC	2	66.7		0.0		0.0	1	33.3	3	100.0
SAALC	24	88.9		0.0	2	7.4	1	3.7	27	100.0
SMALC	148	88.6	1	0.6	1	0.6	17	10.2	167	100.0
WRALC	75	70.1	1	0.9	8	7.5	23	21.5	107	100.0
AF	249	81.9	2	0.7	11	3.6	42	13.8	304	100.0
MCLSBL	125	77.2		0.0		0.0	37	22.8	162	100.0
MC	125	77.2		0.0		0.0	37	22.8	162	100.0
EGICP		0.0		0.0		0.0		0.0		0.0
SICP	5	100.0		0.0		0.0		0.0	5	100.0
AICP	6	85.7		0.0		0.0	1	14.3	7	100.0
CG	11	91.7		0.0		0.0	1	8.3	12	100.0
Other	19	82.6		0.0		0.0	4	17.4	23	100.0
Total	857	81.4	3	0.3	13	1.2	180	17.1	1,053	100.0

Source: DODSSR Data Collection; Steady State Population

Figure I-41

ATC ADVICE ANALYSIS BY RECEIVER
(Summary of No. and % of Row Total for DICs WXA/B)

WIMM	Accept		Offer		Pending		Reject		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
ARRCOM	292	88.2	1	0.3	1	0.3	37	11.2	331	100.0
CERCOM	658	92.7	0	0.0	0	0.0	52	7.3	710	100.0
MIRCOM	157	88.7	0	0.0	1	0.6	19	10.7	177	100.0
TARCOM	52	55.3	1	1.1	0	0.0	41	43.6	94	100.0
TSARCOM	102	70.8	3	2.1	0	0.0	39	27.1	144	100.0
Army	1,261	86.7	5	0.3	2	0.1	188	12.9	1,456	100.0
ASO	501	84.1	0	0.0	0	0.0	95	15.9	596	100.0
SPCC	548	75.0	0	0.0	18	2.5	164	22.5	730	100.0
Navy	1,049	79.1	0	0.0	18	1.4	259	19.5	1,326	100.0
OCALC	88	79.3	1	0.9	0	0.0	22	19.8	111	100.0
OOALC	152	84.4	0	0.0	0	0.0	28	15.6	180	100.0
SAALC	354	84.1	0	0.0	0	0.0	67	15.9	421	100.0
SMALC	152	87.4	0	0.0	0	0.0	22	12.6	174	100.0
WRALC	426	88.6	0	0.0	0	0.0	55	11.4	481	100.0
AF	1,172	85.7	1	0.1	0	0.0	194	14.2	1,367	100.0
MCLSBL	142	89.9	0	0.0	0	0.0	16	10.1	158	100.0
MC	142	89.9	0	0.0	0	0.0	16	10.1	158	100.0
Other	3	13.0	0	0.0	2	8.7	18	78.3	23	100.0
Total	3,627	83.8	6	0.1	22	0.5	675	15.6	4,330	100.0

Source: DODSSR Data Collection; Main Population

Figure I-42

b. Accept Analysis

Individual action taken codes were reviewed to determine the types of accept advice that were being given, since the study team had concluded that the rates of acceptance were not satisfactory. The accept category has five ATCs that can be used to indicate acceptance of an SSR:

YA - Used to provide an NSN notification. May have been preceded by ATCs YD, YE or YX. Could have been preceded by a YB, although the definition of YB seems to connote that the YB will provide an NSN. May contain a new support date if the date repair parts required cannot be met. If a new support date is provided the YA is used in lieu of a YX.

YB - Advises that the item requested in an SSR is identified by an NSN which is managed as a decentralized item (AAC L). Does not indicate whether an NSN is provided, but the format provides for an NSN and providing an NSN is not precluded.

YD - Advises that an item requested is identified as a centrally procured, not stocked item (AAC J). If an NSN is already assigned, it may be provided in the advice card but the definition does not specifically state this. If the item does not have an NSN assigned, or assigned but not provided in the YD advice card, the NSN should be provided by a YA advice card. Procurement of required quantities contingent upon receipt of a funded requisition.

YE - Advises that the item requested in an SSR will be supported by the required date. If the request is for a part numbered item, the YE should be followed by a YA advice when an NSN is obtained for the item.

YX - Advises acceptance but provides a new support date, since the date repair parts required had passed or was less than procurement lead time on the date the SSR was received by the IMM.

Figure I-43 breaks down accept advice into the individual types of accept advice that may occur. The data includes advice for both CIMM and WIMM items together. The Air Force received more NSN notifications than any other Component, but by the same token the Air Force submitted more part numbered requisitions. Previous charts indicated that approximately 47% of the CIMM requests were for part numbered items and of these about 43% were accepted. It would appear that more than 8.4% of the accept advice would be YA NSN notifications. Either NSNs are being provided in some of the other accept advice cards the advice is being lost or not recorded or the NSN is not being provided through the use of the SSR process.

ACCEPT ADVICE ANALYSIS BY SUBMITTER FOR CIMM/WIMM
(Frequency of Occurrence-Row %)

Component SICC	Accept ATC				
	YA	YB	YD	YE	YX
Army	4.1%	0.8%	23.1%	58.3%	13.7%
Navy	7.1	0.4	10.5	73.3	8.7
Air Force	12.9	1.2	18.3	48.4	19.2
Marine Corps	4.5	1.3	40.1	24.8	19.3
Other	4.7	0.4	26.7	50.0	18.2
Total	8.4%	0.8%	18.3%	57.9%	14.6%

Source: DODSSR Data Collection; Steady State Population

Figure I-43

The percentage of YB (decentralized) and YD (central procure) may vary from Component to Component and from time to time depending upon the item requested and the stockage policy of the IMM. The rates for YE and YX are interesting. These two ATCs should be considered together, since they are the opposite of each other. YE indicates that support will be provided by the date requested and YX advises that the requested support date cannot be met because the date required was passed by the time the IMM received the request or that the leadtime for the item was longer than allowed for by the date required. The SSR Procedures provide for the SICC to submit SSRs as soon as possible after the determination of the range and quantity of support requirements to permit the IMM sufficient time to identify and support the requirements of the SICC. The 8.7% YX rate for the Navy is significantly lower than those for the other Services. The nearly 20% rate of new support dates for the Air Force and Marine Corps appears to be rather high.

The table in Figure I-44 was developed to determine if the YX rates were influenced by activity factors.

ACCEPT ADVICE ANALYSIS BY SUBMITTER FOR CIMM/WIMM
(Frequency of Occurrence - Row %)

SICC	Accept ATC	
	YE	YX
ARRCOM	19.5%	35.4%
CERCOM	47.8	14.2
MIRCOM	75.1	9.4
TARCOM	55.7	21.6
TSARCOM	59.1	11.5
Army	58.3%	13.7%
ASO	57.1%	11.8%
SPCC	75.0	8.4
Navy	73.3%	8.7%
OCALC	79.8%	17.1%
OOALC	90.1	5.3
SAALC	44.5	19.7
SMALC	54.3	18.3
WRALC	33.8	22.0
Air Force	48.4%	19.2%
MCLSBL	34.8%	19.3%
Marine Corps	34.8%	19.3%
Other	50.0%	18.2%
Total	57.9%	14.6%

Source: DODSSR Data Collection, Steady State Population

Figure I-44

On the basis of the activity statistics, it appears that the Component data is influenced by activity differences, since there are wide variations in the YX rates for different activities. Activities with a high YX rate should review their provisioning cycles and criteria for establishment of support dates in order to permit submission of SSRs early enough in the provisioning cycle to allow enough time for the IMM to complete its processing cycle and to provide supply support by a realistic support date.

Statistics were also generated for accept advice by IMM to see if there was any significant differences among activities or Components. These statistics are displayed in Figure I-45.

ACCEPT ADVICE ANALYSIS BY RECEIVER FOR CIMM/WIMM
(Frequency of Occurrence - Row %)

Component IMM	Accept ATC				
	YA	YB	YD	YE	YX
Army	0.0%	0.0%	4.2%	93.9%	1.9%
Navy	0.0	1.0	23.1	70.6	5.3
Air Force	0.0	1.7	2.4	95.9	0.0
Marine Corps	0.0	0.0	53.3	46.7	0.0
DLA	8.7	0.5	18.4	57.4	15.0
GSA	0.6	40.4	21.7	37.3	0.0
Other	10.0	0.0	26.7	60.0	3.3
Total	8.4%	0.8%	18.3%	57.9%	14.6%

Source: DODSSR Data Collection; Steady State Population

Figure I-45

With the exception of the CIMM assignment at TARCOM the statistics for the Services are for WIMM items. The volume of activity is so low that differences in the first three columns can be accounted for on the basis of volume. However, the low usage of YX for the Services and GSA can be accounted for based upon the policy and procedures observed during field research. As a general rule, DLA routinely considers the support date in providing advice, but the procedures among the Services and GSA vary considerably among and within Components. The incidence of use of YA NSN advice by WIMMs is so low that it becomes zero during the rounding process. The low rate for YA for GSA is attributed to the time period since GSA did provide a significant number of YA advice during the first part of the data collection. The usage of YB and YD by GSA is attributed to GSA policy of not stocking items on the basis of an SSR. GSA policy is to initially assign AAC J (centrally procure - nonstocked) or AAC L (local purchase). GSA does not change the AAC to stock an item until an actual demand pattern has developed unless required by the regional manager on an exception basis.

The YE and YX accept advice for DLA was broken down by activity to see if there was any activity differences; this information is displayed in Figure I-46.

ACCEPT ADVICE ANALYSIS BY RECEIVER FOR DSCs
(Frequency of Occurrence - Row %)

IMM	YE	YX
DCSC	35.8%	28.9%
DESC	64.0	11.9
DGSC	50.3	19.2
DISC	61.2	10.6
DLA	47.4%	15.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-46

There is an activity variance from 4.4% below the DLA average total to 13.9% above the average for YX advice. The YX support date is computer determined based upon the date repair parts required (DRPR) and the production leadtime in the SSR, and the date the SSR is received by the IMM. The date received by the IMM is the date the SSRs have been posted to the automated SSR suspense file. The variances in YX rates by IMM are attributed to a combination of short DRPRs and long leadtimes placed in the SSR by the submitter, transmission time to mail SSR packages to the IMM, and internal wait time at the IMM prior to introducing the SSRs into the computer processing cycle. Transmission and processing times will be considered in the network analysis later on in this Chapter.

The SSR Procedures prescribe the use of YX advice to provide a new support date. The procedures also permit the use of the YA advice to provide a new support date, but only two of the YA advice transactions received during the entire eight months data collection period had valid new support dates. Although the YA is used principally as an NSN notification card, NSNs are being provided on the other types of advice cards. The SSR Procedures are subject to interpretation on the use of other types of advice transactions to provide an NSN. Figure I-47 provides the percentage of times that NSNs were provided in accept advice.

PERCENT OF ACCEPT ADVICE WITH NSNs FOR CIMM/WIMM ITEMS

ATC	%
YA	100.0%
YB	38.3
YD	71.7
YE	5.7
YX	0.2

Source: DODSSR Data Collection; Main Population

Figure I-47

The 100% for YA advice is expected since this is an NSN notification card. The low percentage of NSNs for YB items is attributable to GSA, since GSA has a policy of decentralizing items even though actual demand data has not been experienced. Since the YE is a final accept for an NSN SSR and an initial accept for a part number SSR the 5.7% is not surprising. Since the YX is usually assigned to part numbered items prior to receiving an NSN that has been requested from DLSC, it is unusual to see YX provided on an item with an NSN assigned. Some of the NSNs in the Y-based YD transactions are the same as contained in the request transaction.

c. Offer/Reply Analysis

Figure I-48 provides statistics for offers and replies to offers for CIMM items. Only six offers and two reply offers were received for WIMM items; therefore, the offer/reply analysis is restricted to CIMM items.

The double line between offers and replies to offers signifies that offers and replies to offers do not necessarily relate to one another. Because of the cutoffs for the data collection there may be some offers at the end of population periods for which there is no reply. In addition some of the replies to offers were sent by mail and were not sent to the study team for inclusion in the data collection and analysis.

The Component and system average percentages are relatively stable from period to period during the data collection, while the actual volumes of transactions were different for each of the periods. Although the Component and system average percentages were compatible, there were some fluctuations for a few activities from period to period. The percentages for offers shown here are the percent of all CIMM supply support request transactions which resulted in an offer.

The replies to offers also were stable from period to period on a percentage basis. The percentage of acceptance of offers varied by less than one percent from period to period. Rejects of offers also varied by less than one percent from period to period. The average acceptance rate was about 97%. Only one offer was made for NSN and two for PSCN items during the entire transition period. Only two replies to offers for NSN/PSCN items were received during the steady state period.

ATC OFFER/REPLY ANALYSIS BY SUBMITTER
(No. and % of Row Total for DICs CXA/CXB/CXC)

SICC	Offers		Replies to Offers					
	Offer		Accept		Reject		Total	
	No.	%	No.	%	No.	%	No.	%
ARRCOM	40	5.5	22	91.7	2	8.3	24	100.0
CERCOM	132	5.9	0	0.0	0	0.0	0	0.0
MIRCOM	21	5 1	3	100.0	0	0.0	3	100.0
TARCOM	41	1.8	1	33.3	2	66.7	3	100.0
TSARCOM	32	0.9	2	66.7	1	33.3	3	100.0
Army	266	2.8	28	84.8	5	15.2	33	100.0
ASO	1,200	5.5	378	99.0	4	1.0	382	100.0
SPCC	1,267	3.4	0	0.0	3	100.0	3	100.0
Navy	2,467	4.2	378	98.2	7	1.8	385	100.0
OCALC	0	0.0	0	0.0	0	0.0	0	0.0
OOALC	0	0.0	0	0.0	0	0.0	0	0.0
SAALC	326	2.2	72	69.2	32	30.8	104	100.0
SMALC	2,849	9.6	1,999	99.1	19	0.9	2,018	100.0
WRALC	260	2.5	121	99.2	1	0.8	122	100.0
AF	3,435	6.2	2,192	97.7	52	2.3	2,244	100.0
MCLSBL	195	2.8	104	91.2	10	8.8	114	100.0
MC	195	2.8	104	91.2	10	8.8	114	100.0
EGICP	0	0.0	0	0.0	0	0.0	0	0.0
SICP	0	0.0	0	0.0	0	0.0	0	0.0
AICP	0	0.0	0	0.0	0	0.0	0	0.0
CG	0	0.0	0	0.0	0	0.0	0	0.0
Other	634	6.2	51	100.0	0	0.0	51	100.0
Total	6,997	5.0	2,753	97.4	74	2.6	2,827	100.0

Source: DODSSR Data Collection; Transition Population

Figure I-48

The sum of offer accepts and rejects does not add up to the total number of offers during any one period. Although this is partially explainable due to the cutoffs, there are other explanations. When an IMM makes an offer to a SICC, the SICC has 60 days from the date of the offer, to provide a reply. If a reply has not been received within 60 days of the date of the offer, the IMM can send an advice card rejecting support for the item originally requested. The SICC must then submit a new SSR if support is desired. Also some of the SICCs were manually preparing replies and mailing them out. The manual replies may have been processed manually to update the files or input directly to the computer. This manual processing can increase processing time and result in support rejects. These replies may also have been excluded from suspense file maintenance as well as the DODSSR Data Collection.

Figure I-49 was generated by analyzing the counts of ATCs applicable to offers, offer accepts, offer rejects and reject of support when a reply was not received.

OFFER/REPLY/SUPPORT REJECT STATISTICS
(Number of Advice Transactions by Period)

Population	Offers	Offer Accepts	Offer Rejects	Support Rejects	Sum Cols 3 to 5
Main	12,448	4,293	127	4,503	8,923
Transition	7,058	2,798	79	3,787	6,664
Steady State	5,006	1,082	36	523	1,641

Source: DODSSR Data Collection

Figure I-49

The transition period is the only period for which the sum of the offer accepts and rejects, and support rejects comes close to the number of offers. This is probably due to the data collection cutoff periods, the selection of periods using the DOR as the criteria for apportioning the data into periods, and the crossover in the mail or AUTODIN of rejects and support rejects of offer accepts in addition to the reasons cited above. If the sum of the offer accepts, offer rejects and support rejects of offers from the transition period is used as a base; then of all the offers in a given period, on an average, 42% are accepted by the SICC, 1.2% are rejected by the SICC, and 56.8% are effectively withdrawn by the IMM because the SICC failed to reply in time.

When the SICC does reply to an offer, the offer is accepted almost 97% of the time. Based upon this overwhelming acceptance of offers, it is not understood why there is such a high offer reply delinquency rate on the part of the SICCs.

The individual ATCs for offers/replies/offer withdrawals were analyzed in an attempt to determine the reason for the high delinquency rate. The applicable ATCs have been extracted from the SSR Procedures and are listed below:

Offer - YL: Offer of an NSN item as an alternate or substitute.
- YQ: Offer of a part numbered item.

Offer Accept - YM: Accept NSN offer.
- YV: Accept part number offer.

Offer Reject - YN: NSN/Part Number offer rejected. Original part number requested is required.
- YP: NSN offer is rejected. Original NSN requested on NSN in cc 8-20 is required.

No Offer Reply - 08: The submitting activity has failed to reply to IMM offer within 60 days. Support is rejected. A new SSR must be submitted if the SICC desires to accept the original offer.

Figure I-50 shows a breakdown of the types of offers, offer accepts and offer rejects, and indicates the percentage of each ATC to the column heading. Most of the offers (86.8%) were NSNs, so naturally most of the offer acceptances were NSN accepts. But, it is interesting to note that not one YP (NSN Offer Rejected) occurred during the Transition Period, or during the entire eight-month data collection period. Note that there are codes for accepting and rejecting NSNs and part numbers, but no code for offering, accepting and rejecting PSCNs.

OFFER/REPLY ATC ANALYSIS
(% of Category)

Offer	Offer Accept	Offer Reject
YL 86.8%	YM 84.6%	YN 100.0%
YQ 13.2%	YV 15.4%	YP 0.0%

Source: DODSSR Data Collection; Transition Population

Figure I-50

Since most of the offers are for NSN items and there is a high acceptance rate, it is not totally understood why there is such a high delinquency rate of replies. The zero rate for YP indicates a lack of offers on NSN requests and this code is a candidate for deletion. Support rejects for lack of a reply to an offer were reviewed on an activity basis. Because of the manual processing and loss of data for offer replies, the support rejects were not directly relatable to the offers and replies and the replies and support rejects could not be summed up on an activity basis to determine relative activity delinquency. Since offer transactions appear to be more stable than reply transactions Figure I-51 provides the relationship of offers to support rejects on an activity and Component basis.

OFFER/NO OFFER REPLY RELATIONSHIP BY SUBMITTER

SICC	Offers	Support Rejects - Offers	
	No.	No.	%
ARRCOM	40	14	35.0%
CERCOM	134	117	87.3
MIRCOM	21	7	33.3
TARCOM	48	29	60.4
TSARCOM	27	21	77.8
Army	270	188	69.6%
ASO	1,204	1,112	92.4%
SPCC	1,270	198	15.6
Navy	2,474	1,310	53.0%
OCALC	0	0	0.0%
OOALC	0	0	0.0
SAALC	327	219	67.0
SMALC	2,849	1,314	46.1
WRALC	286	77	26.9
AF	3,462	1,610	46.5%
MCLSBL	197	87	44.2%
MC	197	87	44.2%
Total	6,403	3,195	49.9%

Source: DODSSR Data Collection; Transition Period

Figure I-51

The number of offers does not exactly match those in Figure I-48 because all offers and replies in Figure I-48 had to match up with a request transaction while those in Figure I-51 show the raw counts of offers and support rejects (ATC 08). The support reject rate indicates that SPCC must have been submitting offer replies manually and that a number of them were missing from the data collection because of their 15.6% support reject rate shown here. By contrast SMALC in the Air Force while replying to 70.8% of their offers, had a 46.1% support reject rate indicating that there must have been a delay somewhere in the process causing the replies to be received more than 60 days after the date of the offer. The same is true for ASO in the Navy with a 92.4% support reject rate. Except for the 15.6% reject rate for SPCC, the picture looks rather bleak from a submitter viewpoint. There appears to be a combination of activity and system problems on the submitter's side.

Figure I-52 shows the support reject to offer ratio from the receiver's side.

OFFER/NO OFFER REPLY RELATIONSHIP BY RECEIVER

IMM	Offers	Support Rejects	Support Rejects Divided by Offers
DCSC	148	81	54.7%
DESC	5,688	3,138	55.2
DGSC	390	228	58.5
DISC	598	340	56.9
GSA	229	0	0.0
Total	7,053	3,787	53.7%

Source: DODSSR Data Collection, Transition Period

Figure I-52

The support reject rate on no replies to offers appears to be fairly consistent among the DLA Supply Centers. However, it is surprising to note that GSA did not reject any SSR because a reply was not received to an offer it had made to an SICC. This was true for the entire data collection period even though GSA made 229 NSN offers during the Transition Period and 311 NSN offers during the entire data collection. GSA did not offer any part numbered items.

Figure I-53 breaks down the Replies to Offers by Receiver (IMM) for CIMM items. Only DLA and GSA are shown since TARCOM had no replies during the period.

REPLIES TO OFFERS BY RECEIVER
(Percent)

IMM	Accept	Reject
DCSC	94.4%	5.6%
DESC	98.4	1.6
DGSC	95.3	4.7
DISC	86.1	13.9
DLA	97.3%	2.7%
GSA	100.0%	0.0%
Total	97.3%	2.7%

Source: DODSSR Data Collection; Transisiton Population

Figure I-53

The acceptance rate for IMM offers of CIMM items is very good. Particularly noteworthy are the rates of DESC and GSA. DESC offers included 16.1% part numbers while GSA did not forward any part numbered offers. The rates for the other centers were DCSC - 0.7%, DGSC - 2.6%, and DISC - 0.7%. The high rate of part numbered offers by DESC is attributed to the use of technical personnel in performing technical screening and standardization before NSN assignment rather than after. The acceptance rate for DISC is significantly lower than for the other IMMs. This can only be attributed to activity differences.

d. Pending Analysis

The SSR Procedures provide two ATCs to indicate status from an IMM to a SICC on the processing of an SSR:

ATC 64 - This code is used only for WIMM items to advise of a delay pending the receipt of adequate technical data.

ATC 67 - Used by both CIMM/WIMM to advise that the final support determination is pending and will be provided within 15 days.

Code 64 did not occur in the entire eight months data collection period. Since a WIMM generally is required to have technical data for WIMM items, this code appears to be a candidate for elimination. Codes YS and/or 44 appear to overlap or duplicate Code 64. Code 67 appears only 563 times during the entire data collection period. This is 0.2% of the time. The

only apparent usage for this code is to advise that processing of an SSR is incomplete, but recognizes that the SSR has been received and is in processing. Despite its low usage there should be at least one code to advise that an SSR has been received, is in processing and that a final determination has not yet been made.

e. Reject Analysis. The study team concluded as a result of the overall advice analysis in Paragraph C.4.a. above that the rates for the Reject Category of advice were too high. The reject advice was, therefore, broken down into subcategories and analyzed by subcategory as well as individual ATC within subcategory. Figure I-33 grouped all the ATCs into categories and subcategories. The reject category just has too many ATCs to list each of them and to provide a definition and usage for each one of them. That is the reason that the reject category was broken down into subcategories. Particular ATCs will be referred to and defined if they show up as significant during the review of the reject subcategories.

(1) Reject Category Analysis. Reports in this section will group rejects by reject category and compare the categories to each other. Subsequent sections will provide a detailed analysis of the individual reject categories. Since some of the reports in this section will be displayed by Component and activity, extracts of the relative volumes of SSRs submitted by each activity and Component are shown in Figures I-54 and I-55 to permit an analysis of reject rates in respect to volume of business by activity or Component.

(a) CIMM

The 41.9% reject rate for all CIMM SSRs shown previously in Figure I-40, was considered to be much too high by the study team. In order to ascertain the reason for the high reject rate a series of reports were generated to breakdown rejects into meaningful subcategories such as is shown in Figures I-56 and I-57.

Invalid data and other errors account for over 50% of all the rejects. Invalid data rejects are validation errors. The Army and Marine Corps rates of over 50% of their rejects due to invalid data are well above the system average. Together they accounted for almost 48% of the total validation rejects although they account for only 15% of the total request volume. This is attributed to the use of manual systems for the generation of SSRs during the time of the study. There also was no automated system for the validation of outgoing SSRs in use by the Army and the Marine Corps at the time of the data collection.

GROSS LISSR VOLUMES FROM SICC TO IMM
(Percent of Column Total by Submitter)

Submitter	CIMM Total %	WIMM Total %
ARRCOM	0.2%	0.9%
CERCOM	2.3	2.3
MIRCOM	0.6	1.9
TARCOM	1.0	0.5
TSARCOM	4.8	7.5
Army	8.9%	13.1%
ASO	8.6%	28.7%
SPCC	25.6	0.2%
Navy	34.2%	28.9%
OCALC	0.3%	0.0%
OOALC	1.8	0.5
SAALC	9.9	8.6
SMALC	23.4	18.5
WRALC	8.8	15.7
Air Force	44.2%	43.3%
MCLSBL	5.2%	11.8%
MC	5.2%	11.8%
EGICP	0.2%	0.0%
SICP	0.1	0.3
AICP	0.0	0.4
CG	0.3%	0.7%
Other	7.2%	2.2%
Total	100.0%	100.0%

Source: DODSSR Data Collection;
Steady State Population

Figure I-54

GROSS LISSR VOLUMES FROM SICC TO IMM
(Percent of Column Total by Receiver)

Receiver	CIMM Total %	WIMM Total %
ARRCOM	0.0%	3.9%
CERCOM	0.0	13.2
MIRCOM	0.0	3.7
TARCOM	0.3	10.0
TSARCOM	0.0	4.1
Army	0.3%	34.9%
ASO	0.0%	13.5%
SPCC	0.0	20.2%
Navy	0.0%	33.7%
OCALC	0.0%	3.7%
OOALC	0.0	3.5
SAALC	0.0	7.0
SMALC	0.0	3.3
WRALC	0.0	7.6
Air Force	0.0%	25.1%
MCLSBL	0.0%	3.9%
MC	0.0%	3.9%
DLSC	9.4%	0.0%
DESC	54.1	0.0
DGSC	10.0	0.0
DISC	23.2	0.0
DLA	96.7%	0.0%
GSA	2.4%	0.0%
Other	0.6%	2.4%
Total	100.0%	100.0%

Source: DODSSR Data Collection;
Steady State Population

Figure I-55

ATC ADVICE ANALYSIS BY SUBMITTER
(Summary of Rejects for DICs CXA/B/C)

	Reject Category (Row %)						
SICC	FSC/ Manager %	NSN/ PSCN %	Catalog/ TD %	Invalid Data %	Match/ Dup %	Procure-ment %	Other %
ARRCOM	6.8	15.1	5.5	53.4	6.8	1.4	11.0
CERCOM	3.5	13.1	6.4	65.4	0.2	0.7	10.7
MIRCOM	7.0	21.0	15.0	36.0	1.0	4.0	16.0
TARCOM	3.9	6.5	11.4	68.7	0.0	0.2	9.3
TSARCOM	15.9	15.6	4.6	53.3	0.2	0.3	10.1
Army	8.7	13.3	6.8	59.8	0.4	0.6	10.4
ASO	5.4	22.4	25.8	23.1	0.9	0.7	21.7
SPCC	3.4	25.3	5.9	26.4	1.4	0.3	37.3
Navy	3.6	24.9	8.5	25.9	1.4	0.3	35.4
OCALC	8.8	22.5	17.5	37.4	0.0	0.0	13.8
OOALC	7.4	17.6	12.8	18.2	6.1	0.0	37.9
SAALC	8.9	11.9	16.0	31.5	9.8	0.4	21.5
SMALC	6.4	9.4	26.1	25.0	7.1	0.4	25.6
WRALC	12.0	7.8	20.3	9.9	27.1	1.0	21.9
AF	8.3	9.9	21.9	23.5	12.2	0.5	23.7
MCLSBL	8.5	14.3	3.9	54.3	1.2	0.3	17.5
MC	8.5	14.3	3.9	54.3	1.2	0.3	17.5
EGICP	3.9	6.8	0.0	85.4	0.0	0.0	3.9
SICP	6.3	62.4	0.0	31.3	0.0	0.0	0.0
AICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CG	4.2	14.3	0.0	78.1	0.0	0.0	3.4
Other	4.4	9.7	9.8	48.4	0.3	0.3	27.1
Total	6.3	16.0	13.6	31.5	5.5	0.4	26.7

Source: Data Collection; Steady State Population

Figure I-56

ATC ADVICE ANALYSIS BY SUBMITTER
(Summary of % of Rejects for DICs CXA/B/C)

	Reject Category (Column %)							
	FSC/ Manager	NSN/ PSCN	Catalog/ TD	Invalid Data	Match/ Dup	Procure- ment	Other	Total
SICC	%	%	%	%	%	%	%	%
ARRCOM	0.3	0.2	0.1	0.4	0.3	0.8	0.1	0.2
CERCOM	1.9	2.7	1.6	7.0	0.1	5.3	1.3	3.3
MIRCOM	0.4	0.4	0.4	0.4	0.1	3.0	0.2	0.3
TARCOM	1.0	0.7	1.3	3.5	0.0	0.8	0.6	1.6
TSARCOM	9.2	3.6	1.2	6.2	0.1	2.3	1.4	3.7
Army	12.8	7.6	4.6	17.5	0.6	12.2	3.6	9.1
ASO	4.2	6.9	9.3	3.6	0.8	7.6	4.0	4.9
SPCC	17.3	51.0	13.9	27.0	8.2	21.9	45.2	32.2
Navy	21.5	57.9	23.2	30.6	9.0	29.5	49.2	37.1
OCALC	0.4	0.4	0.3	0.3	0.0	0.0	0.1	0.3
OOALC	0.6	0.5	0.5	0.3	0.5	0.0	0.7	0.5
SAALC	15.8	8.3	13.1	11.2	19.7	10.6	9.0	11.2
SMALC	19.8	11.6	38.1	15.8	25.5	18.2	19.1	19.9
WRALC	16.8	4.3	13.2	2.8	43.2	21.2	7.2	8.8
AF	53.4	25.1	65.2	30.4	88.9	50.0	36.1	40.7
MCLSBL	6.6	4.4	1.4	8.5	1.1	3.8	3.2	4.9
MC	6.6	4.4	1.4	8.5	1.1	3.8	3.2	4.9
EGICP	0.2	0.1	0.0	0.9	0.0	0.0	0.0	0.3
SICP	0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.1
AICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CG	0.3	0.3	0.0	1.0	0.0	0.0	0.0	0.4
Other	5.4	4.7	5.6	12.0	0.4	4.5	7.9	7.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Data Collection; Steady State Population

Figure I-57

The Navy recorded the highest number of Other rejects. Thirty-five percent of their rejects were attributable to this category, and approximates their volume of request transactions. The Navy count was primarily due to SPCC. The Navy also experienced a 28.5% error rate due to DLSC screening. The FSC/Manager and NSN/PSCN columns constitute rejects because the IMM picked up information during DLSC screening that should have been obtained and included in the SSR by the SICC. The Navy recorded over 57% of the NSN/PSCN rejects while accounting for 34% of the total requests. The Air Force is higher than the system average for catalog/technical data and for match/duplication errors. The Air Force accounted for over 65% of the catalog/technical data rejects and over 88% of the match/duplication errors.

In order to determine the influence of NSN versus part number requests CXA rejects are shown in Figure I-58 and I-59.

The 46.9% Invalid Data reject rate for NSN requests is significantly higher than the 31.5% for all requests indicating a much higher reject rate due to validation for NSN items. This is somewhat unusual since there are fewer cards and data elements required to request support for an NSN than for a part numbered item. The basic elements of data needed to request support for an NSN should be the document identifier code, the NSN, the activity codes (from and to), and the quantities requested, in addition to the control data elements.

The 70% invalid data reject rate for the Army is astronomical. The Army rejects can be attributed to problems associated with DLSC screening, and data entry and validation. The Navy accounted for over 50% of all the rejects for NSN items. This is principally due to rejects received by SPCC. The 52.7% reject rate for the Navy compares with the 44.6% volume of its NSN requests. The validation errors for all Components for NSN requests are too high across the board. There can and should be a lot of improvement in the preparation, DLSC screening, data validation, transmission and processing of NSN SSRs.

Figures I-60 and I-61 provide statistics for part numbered rejects.

The invalid data rejects at 16.4% are much more favorable than for NSN requests. Of this amount the Army and Air Force were the biggest contributors. The rate of validation rejects is still much too high. The much higher rate of 26.7% for part numbers over 0.1% for NSNs for catalog/technical data is expected. The errors for part numbered items appear to be more evenly distributed among activities and Components than

ATC ADVICE ANALYSIS BY SUBMITTER FOR CXA TRANSACTIONS

SICC	Reject Category (Row %)						
	FSC/ Manager %	NSN/ PSCN %	Catalog/ TD %	Invalid Data %	Match/ Dup %	Procure- ment %	Other %
ARRCOM	0.0	50.0	0.0	33.3	16.7	0.0	0.0
CERCOM	2.4	7.7	0.0	89.7	0.0	0.0	0.2
MIRCOM	5.0	40.0	0.0	47.5	0.0	0.0	7.5
TARCOM	2.4	19.0	0.0	78.6	0.0	0.0	0.0
TSARCOM	14.1	37.0	0.0	37.3	0.5	0.0	11.1
Army	6.1	19.2	0.0	70.8	0.2	0.0	3.7
ASO	10.2	34.2	0.0	45.1	2.6	0.0	7.9
SPCC	1.7	28.0	0.0	32.4	1.6	0.0	36.3
Navy	2.0	28.2	0.0	32.8	1.6	0.0	35.4
OCALC	9.7	51.6	0.0	25.8	0.0	0.0	12.9
OOALC	8.2	10.6	5.9	20.0	10.6	0.0	44.7
SAALC	5.3	11.9	0.0	60.1	15.8	0.0	6.9
SMALC	5.1	8.0	0.1	61.3	10.5	0.0	15.0
WRALC	10.5	15.6	1.8	35.5	20.6	0.0	16.0
AF	6.1	11.0	0.4	55.8	13.7	0.0	13.0
MCLSBL	3.5	16.0	0.0	69.2	1.2	0.0	10.1
MC	3.5	16.0	0.0	69.2	1.2	0.0	10.1
EGICP	3.9	6.8	0.0	85.4	0.0	0.0	3.9
SICP	6.3	62.4	0.0	31.3	0.0	0.0	0.0
AICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CG	4.2	14.3	0.0	78.1	0.0	0.0	3.4
Other	2.2	8.8	0.0	67.0	0.1	0.0	21.9
Total	3.4	20.8	0.1	46.9	4.1	0.0	24.7

Source: Data Collection; Steady State Population

Figure I-58

ATC ADVICE ANALYSIS BY SUBMITTER FOR CXA TRANSACTIONS

SICC	FSC/ Manager %	NSN/ PSCN %	Catalog/ TD %	Invalid Data %	Match/ Dup %	Procure- ment %	Other %	Total %
	Reject Category (Column %)							
ARRCOM	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0
CERCOM	3.1	1.6	0.0	8.4	0.0	0.0	0.0	4.4
MIRCOM	0.4	0.5	0.0	0.3	0.0	0.0	0.1	0.3
TARCOM	0.6	0.8	0.0	1.4	0.0	0.0	0.0	0.8
TSARCOM	10.2	4.4	0.0	2.0	0.3	0.0	1.1	2.5
Army	14.3	7.4	0.0	12.1	0.5	0.0	1.2	8.0
ASO	5.3	2.9	0.0	1.7	1.1	0.0	0.6	1.8
SPCC	25.5	68.6	0.0	35.2	19.7	0.0	75.1	50.9
Navy	30.8	71.5	0.0	36.9	20.8	0.0	75.7	52.7
OCALC	0.6	0.5	0.0	0.1	0.0	0.0	0.1	0.2
OOALC	1.4	0.3	33.3	0.2	1.5	0.0	1.0	0.6
SAALC	12.8	4.6	0.0	10.4	31.1	0.0	2.3	8.1
SMALC	16.3	4.2	6.7	14.1	27.3	0.0	6.6	10.8
WRALC	10.4	2.5	60.0	2.6	16.8	0.0	2.2	3.4
AF	41.5	12.1	100.0	27.4	76.7	0.0	12.2	23.1
MCLSBL	6.1	4.5	0.0	8.7	1.8	0.0	2.4	5.9
MC	6.1	4.5	0.0	8.7	1.8	0.0	2.4	5.9
EGICP	0.8	0.2	0.0	1.2	0.0	0.0	0.1	0.7
SICP	0.2	0.3	0.0	0.1	0.0	0.0	0.0	0.1
AICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CG	1.0	0.5	0.0	1.3	0.0	0.0	0.1	0.8
Other	6.3	4.0	0.0	13.6	0.2	0.0	8.4	9.5
Total	100.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0

Source: Data Collection; Steady State Population

Figure I-59

ATC ADVICE ANALYSIS BY SUBMITTER FOR CXB TRANSACTIONS

SICC	Reject Category (Row %)						
	FSC/ Manager %	NSN/ PSCN %	Catalog/ TD %	Invalid Data %	Match/ Dup %	Procure- ment %	Other %
ARRCOM	7.5	11.9	6.0	55.2	6.0	1.5	11.9
CERCOM	5.6	22.8	18.1	20.9	0.6	1.9	30.1
MIRCOM	8.5	8.5	25.4	28.8	1.7	6.8	20.3
TARCOM	4.4	2.2	15.3	65.2	0.0	0.3	12.6
TSARCOM	16.8	4.9	6.8	61.5	0.0	0.4	9.6
Army	10.8	8.8	11.9	51.7	0.4	1.0	15.4
ASO	4.4	19.9	31.2	18.4	0.6	0.8	24.7
SPCC	9.3	15.9	26.3	5.5	0.8	1.3	40.9
Navy	7.5	17.3	28.1	10.1	0.7	1.1	35.2
OCALC	8.2	4.1	28.6	44.8	0.0	0.0	14.3
OOALC	6.3	27.0	22.2	15.9	0.0	0.0	28.6
SAALC	10.9	11.9	24.9	15.6	6.5	0.6	29.6
SMALC	6.9	9.8	35.7	11.8	5.8	0.5	29.5
WRALC	12.4	6.1	24.5	4.0	28.5	1.3	23.2
AF	9.2	9.5	30.2	11.0	11.5	0.7	27.9
MCLSBL	16.0	11.7	9.8	32.1	1.2	0.8	28.4
MC	16.0	11.7	9.8	32.1	1.2	0.8	28.4
EGICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	7.6	11.0	24.8	20.0	0.5	0.6	35.5
Total	9.2	11.3	26.7	16.4	6.9	0.8	28.7

Source: Data Collection; Steady State Population

Figure I-60

ATC ADVICE ANALYSIS BY SUBMITTER FOR CXB TRANSACTIONS

SICC	Reject Category (Column %)							
	FSC/ Manager %	NSN/ PSCN %	Catalog/ TD %	Invalid Data %	Match/ Dup %	Procure- ment %	Other %	Total %
ARRCOM	0.4	0.5	0.1	1.5	0.4	0.8	0.2	0.4
CERCOM	1.4	4.7	1.6	2.9	0.2	5.3	2.4	2.3
MIRCOM	0.4	0.3	0.4	0.7	0.1	3.0	0.3	0.4
TARCOM	1.1	0.5	1.3	9.4	0.0	0.8	1.0	2.4
TSARCOM	8.8	2.1	1.2	18.0	0.0	2.3	1.6	4.8
Army	12.1	8.1	4.6	32.5	0.7	12.2	5.5	10.3
ASO	3.8	14.0	9.3	9.0	0.7	7.6	6.9	8.0
SPCC	14.3	19.9	13.9	4.8	1.7	21.9	20.3	14.2
Navy	18.1	33.9	23.2	13.8	2.4	29.5	27.2	22.2
OCALC	0.3	0.1	0.3	0.9	0.0	0.0	0.2	0.3
OOALC	0.3	1.0	0.3	0.4	0.0	0.0	0.4	0.4
SAALC	16.9	14.9	13.2	13.5	13.2	10.6	14.6	14.1
SMALC	21.3	24.5	38.4	20.5	24.0	18.2	29.2	28.5
WRALC	19.1	7.6	13.0	3.4	58.5	21.2	11.5	14.2
AF	57.9	48.1	65.2	38.7	95.7	50.0	55.9	57.5
MCLSBL	6.8	4.0	1.4	7.6	0.7	3.8	3.9	3.9
MC	6.8	4.0	1.4	7.6	0.7	3.8	3.9	3.9
EGICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	5.1	5.9	5.6	7.4	0.5	4.5	7.5	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Data Collection; Steady State Population

Figure I-61

for NSNs. TSARCOM and Marine Corps are high for FSC/Manager errors. Although the Air Force 9.2% of this category equals the average total in Figure I-60, Figure I-61 indicates that the Air Force accounts for almost 58% of the FSC/Manager errors, and 65.2% of the catalog/technical data rejects. The Air Force also accounted for 95.7% of the match/duplication errors for part numbered items.

The volumes of PSCN items were too small to warrant a table to summarize the rejects. NSNs/PSCNs accounted for 29.4%, Invalid Data for 38.3%, and Match/Duplicate for 17.6%.

Because of the large amount of data and processing time required to analyze the data, receiver statistics were run only on the total population of data. The total figures will be slightly different due to the time period although proportions are comparable. Figures I-62 and I-63 provide data for all the CIMM rejects by IMM.

DCSC and GSA are significantly higher on FSC/Manager errors than the system average for that category, while DESC is significantly below the average. The rate of rejects in this category exceed the proportion of requests for DCSC and GSA. DESC is above the category average for NSN/PSCN. Since these rejects are due to DLSC screening deficiencies upon the part of the submitters, it is not known why these variances exist. GSA is significantly high for catalog/technical data rejects at a rate of over 1.5 times its request volume. This confirms the GSA comment during field research concerning the quantity and quality of technical data that it was receiving. GSA is extremely low as compared to the system average for validation rejects. This is attributed to manual processing and editing by GSA and the less stringent criteria for acceptance of SSRs when non-key data elements are missing or invalid. This rate is much more in line with what a properly functioning system should expect for validation rejects. The high incidence of match/duplicate rejects for GSA is not understood. The other category shows a high incidence for DESC. This is attributed to the intensive technical screening effort by DESC and the use of ATC 36 requiring information to be returned to the submitter on an exception basis.

An analysis of the differences in NSN and part number rejects for receivers tends to confirm the analyses presented above for submitters. There did not appear to be any significant variances between NSN and part numbered items among DLA activities. The 0.3% validation reject rate for GSA is for NSN items extremely good and tends to confirm the observation of the DODSSR Study Team that only minimal data is required to process and accept supply support for an NSN item.

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ATC ADVICE ANALYSIS BY IMM
(Summary of % of Row Total For DICs CXA/B/C)

IMM	Reject Category: FSC/ Manager %	NSN/ PSCN %	Catalog/ TD %	Invalid Data %	Match/ Dup %	Procure-ment %	Other %
TARCOM	4.5	10.2	0.0	0.0	14.0	0.0	71.3
Army	4.5	10.2	0.0	0.0	14.0	0.0	71.3
DCSC	14.2	11.5	13.1	38.2	5.6	1.0	16.4
DESC	2.1	17.4	9.8	33.5	9.0	0.4	27.8
DGSC	9.8	11.1	15.7	31.6	9.0	1.4	21.4
DISC	4.6	13.0	9.8	42.8	8.9	0.0	20.9
DLA	4.5	15.3	10.8	35.4	8.7	0.5	24.8
GSA	14.9	11.4	26.0	3.3	26.1	4.9	13.4
Other	21.7	10.1	0.0	26.2	20.3	0.0	21.7
Total	4.7	15.2	11.1	34.8	9.0	0.6	24.6

Source: DODSSR Data Collection, Main Population

Figure I-62

ATC ADVICE ANALYSIS BY IMM
(Summary of % of Column Total For DICs CXA/B/C)

SICC	Reject Category							
	FSC/ Manager	NSN/ PSCN	Catalog/ TD	Invalid Data	Match/ Dup	Procurement	Other	Total
	%	%	%	%	%	%	%	%
TARCOM	0.1	0.1	0.0	0.0	0.2	0.0	0.4	0.2
Army	0.1	0.1	0.0	0.0	0.2	0.0	0.4	0.2
DCSC	22.4	5.6	8.8	8.2	4.6	13.2	5.0	7.4
DESC	25.6	67.3	51.8	56.6	58.2	37.8	66.2	58.6
DGSC	27.3	9.5	18.4	11.8	12.9	32.3	11.3	13.0
DISC	18.6	16.2	16.8	23.2	18.7	1.2	16.0	18.9
DLA	[illegible].9	98.6	95.8	99.8	94.4	84.5	98.5	97.9
GSA	[illegible].7	1.3	4.2	0.2	5.2	15.5	1.0	1.8
Other	0.3	0.0	0.0	0.0	0.2	0.0	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: DOSSR Data Collection; Main Population

Figure I-63

The FSC/Manager (22.0%), Catalog/TD (7.9%) and Match/Duplicate (50.8%) for NSN items all were above the system averages and GSA request percentages. There should not be a problem in determining the FSC/Manager for an NSN item and Catalog/Technical Data is not required for an active NSN item. It is not understood why there should be such a high match/duplicate rate for NSN items for GSA.

(b) WIMM

Figure I-64 displays the statistics for rejects by submitter for WIMM items. If the item had been properly screened with DLSC over 56% of the rejects would have been unnecessary. ASO in the Navy has the greatest volume of rejects in this area. This is particularly true since the vast majority of WIMM SSRs are for NSN items. The Marine Corps experienced 54.1% of their rejects due to invalid data which indicates improper entry of data when preparing SSRs.

Figure I-65 presents data for WIMM IMMs. From a receiver basis the Navy seems to be the recipient of the greatest volume of FSC/Manager errors, while the Air Force receives the largest number of NSN/PSCN errors. As an IMM, the Air Force rejects the most WIMM SSRs due to invalid data.

(2) Individual ATC Analysis

The previous analytical reports permitted an analysis of SSR rejects by subdividing the rejects into major subcategories. This allowed identification of the major areas where rejects were occurring by type of error and by submitting and receiving activity or Component where the errors were occurring most frequently. In order to more fully understand the reason for the occurrence of the major reject categories, it was necessary to determine the occurrence of indiviudal ATCs within these categories. This was needed due to the large number of individual ATCs constituting some of the reject categories.

An analysis was first made of the frequency of occurrence of all ATCs regardless of category for each of the data base populations. This was done in order to determine which population or populations should be selected to be used for comparison with the results of the AUTODIN and TELEFAX tests. All ATCs for each population with a frequency of occurrence of 1% or greater or those in the top 20 rank in terms of greatest frequency of occurrence were selected and placed in a Population/ATC Rank Matrix. The ATCs were placed in ascending order and compared. The main, transition and steady state populations were similar throughout the ranking. The first eight ranks were almost identical and the ranks were very similar through the top

ATC ADVICE ANALYSIS BY SUBMITTER
(Summary of % of Row Total for DICs WXA/B)

	Reject Category						
SICC	FSC/ Manager %	NSN/ PSCN %	Catalog/ TD %	Invalid Data %	Match/ Dup %	Procure-ment %	Other %
ARRCOM	0.0	0.0	0.0	0.0	0.0	0.0	100.0
CERCOM	12.5	0.0	0.0	25.0	0.0	0.0	62.5
MIRCOM	0.0	0.0	0.0	100.0	0.0	0.0	0.0
TARCOM	0.0	100.0	0.0	0.0	0.0	0.0	0.0
TSARCOM	31.3	12.5	0.0	0.0	0.0	0.0	56.2
Army	22.2	11.1	0.0	11.1	0.0	0.0	55.6
ASO	72.5	11.6	0.0	2.9	0.0	0.0	13.0
SPCC	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Navy	72.5	11.6	0.0	2.9	0.0	0.0	13.0
OCALC	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OOALC	100.0	0.0	0.0	0.0	0.0	0.0	0.0
SAALC	100.0	0.0	0.0	0.0	0.0	0.0	0.0
SMALC	64.7	17.6	0.0	5.9	5.9	0.0	5.9
WRALC	26.1	8.7	0.0	0.0	30.4	0.0	34.8
AF	45.3	11.9	0.0	2.4	19.0	0.0	21.4
MCLSBL	18.9	5.4	8.1	54.1	0.0	0.0	13.5
MC	18.9	5.4	8.1	54.1	0.0	0.0	13.5
EGICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SICP	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AICP	100.0	0.0	0.0	0.0	0.0	0.0	0.0
CG	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	25.0	0.0	75.0	0.0	0.0	0.0
Total	46.1	10.6	1.7	16.1	4.4	0.0	21.1

Source: Data Collection; Steady State Population

Figure I-64

ATC ADVICE ANALYSIS BY IMM
(Summary of % of Row Total for DICs WXA/B)

SICC	Reject Category FSC/ Manager %	NSN/ PSCN %	Catalog/ TD %	Invalid Data %	Match/ Dup %	Procurement %	Other %
ARRCOM	27.0	0.0	8.1	2.7	18.9	0.0	43.3
CERCOM	40.4	19.2	0.0	0.0	23.1	0.0	17.3
MIRCOM	5.3	10.5	0.0	0.0	0.0	0.0	84.2
TARCOM	0.0	7.3	0.0	41.5	39.0	0.0	12.2
TSARCOM	10.3	0.0	0.0	0.0	48.7	0.0	41.0
Army	19.1	8.0	1.6	9.6	28.7	0.0	33.0
ASO	74.6	1.1	0.0	1.1	23.2	0.0	0.0
SPCC	65.3	4.9	0.0	1.2	2.4	0.0	26.2
Navy	68.7	3.5	0.0	1.2	10.0	0.0	16.6
OCALC	22.7	9.1	0.0	40.9	9.1	0.0	18.2
OOALC	0.0	7.1	0.0	28.6	0.0	0.0	64.3
SAALC	62.7	22.4	0.0	10.4	0.0	0.0	4.5
SMALC	0.0	27.3	0.0	31.8	0.0	0.0	40.9
WRALC	5.5	20.0	0.0	41.7	7.3	0.0	25.5
AF	25.8	18.6	0.0	27.8	3.1	0.0	24.7
MCLSBL	56.1	31.3	0.0	6.3	0.0	0.0	6.3
MC	56.1	31.3	0.0	6.3	0.0	0.0	6.3
Other	0.0	0.0	0.0	11.1	77.8	0.0	11.1
Total	40.5	9.6	0.4	11.6	14.8	0.0	23.1

Source: Data Collection; Steady State Population

Figure I-65

15 ranks. There was only one code in each of the populations that was not included in all three populations. However, the main and transition populations contained more invalid codes and some that were attributable to conversion from the old to the new system. In addition, the steady state population was considered more representative of the actual system as operating and more compatible and comparable with the test populations. The steady state population was thus selected as the base population for analysis of the system and for comparison with the test populations.

Figure I-66 shows the frequency of occurrence of ATCs.

ATC FREQUENCY OF OCCURRENCE
(Valid ATCs)

Number ATCs	Cumulative Number ATCs	Percent Frequency Range	Percent Frequency	Percent Cumulative Frequency
3	3	8.3% to 32.9%	51.6%	51.6%
6	9	2.8 to 8.2	24.5	76.1
11	20	0.8 to 2.7	15.3	91.4
7	27	0.5 to 2.6	4.3	95.7
19	46	0.1 to 2.5	4.0	99.7
16	62	0.001 to 0.09	0.3	100.0
8	70	0.0% to 0.0%	0.0%	100.0%

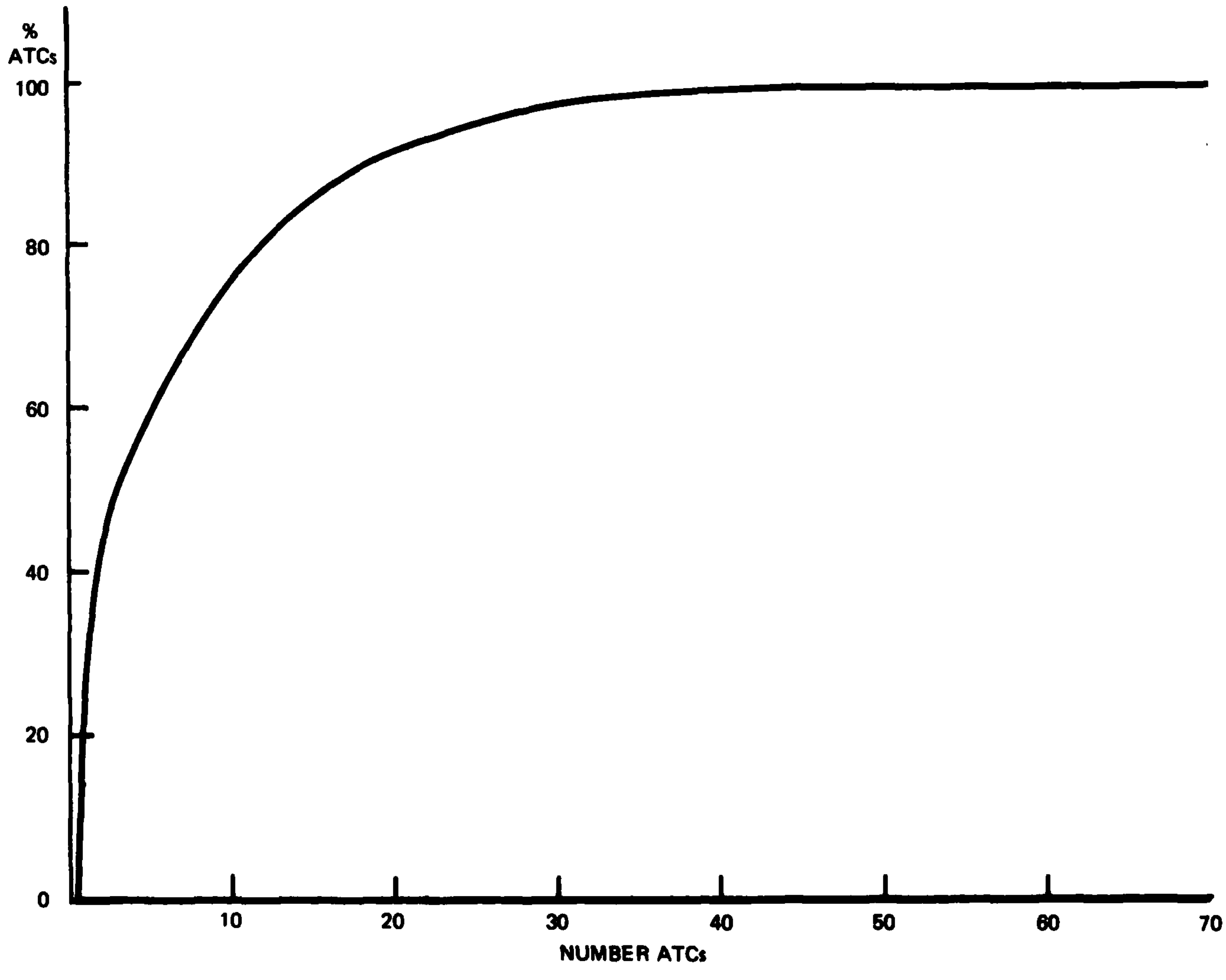
Source: DODSSR Data Collection; Steady State Population

Figure I-66

Although there are 70 possible ATCs available for assignment in the SSR Procedures, there is a wide disparity in their usage. Three ATCs accounted for over 50% of the usage. Less than 20 of the codes are used 1% or more of the time, and eight codes experienced no usage at all during the base period.

Figure I-67 dramatically depicts the fact that very few codes account for the majority of usage and that a large number of codes have little or no usage. Those codes with an extremely low record of usage should be considered for deletion and or consolidation with other codes. Codes with a usage of less than 1% should be considered candidates for review and those with less than 0.5% should be considered prime candidates for deletion based upon usage alone. This confirms the complaints of using activities that there were too many codes with too many conflicting and overlapping meanings and usages. This causes the user to sometimes incorrectly apply a code on the sending side or to misinterpret a code on the receiving end.

CUMULATIVE FREQUENCY DISTRIBUTION FOR ATCs



SOURCE: DODSSR DATA COLLECTION; STEADY STATE POPULATION

Figure I-67

A separate distribution was developed for reject codes as shown in Figure I-68.

REJECT CODE FREQUENCY OF OCCURRENCE
(Valid ATCs)

Number ATCs	Cumulative Number ATCs	Percent Frequency Range	Percent Frequency	Percent Cumulative Frequency
5	5	7.6% to 13.2%	50.1%	50.1%
6	11	2.4 to 13.1	24.7	74.8
10	21	1.1 to 13.0	15.0	89.8
7	28	0.6 to 1.0	5.3	95.1
12	40	0.1 to 0.5	2.6	97.7
10	50	0.001 to 0.09	2.3	100.0
6	56	0.0% to 0.0%	0.0%	100.0%

Source: DODSSR Data Collection; Steady State Population

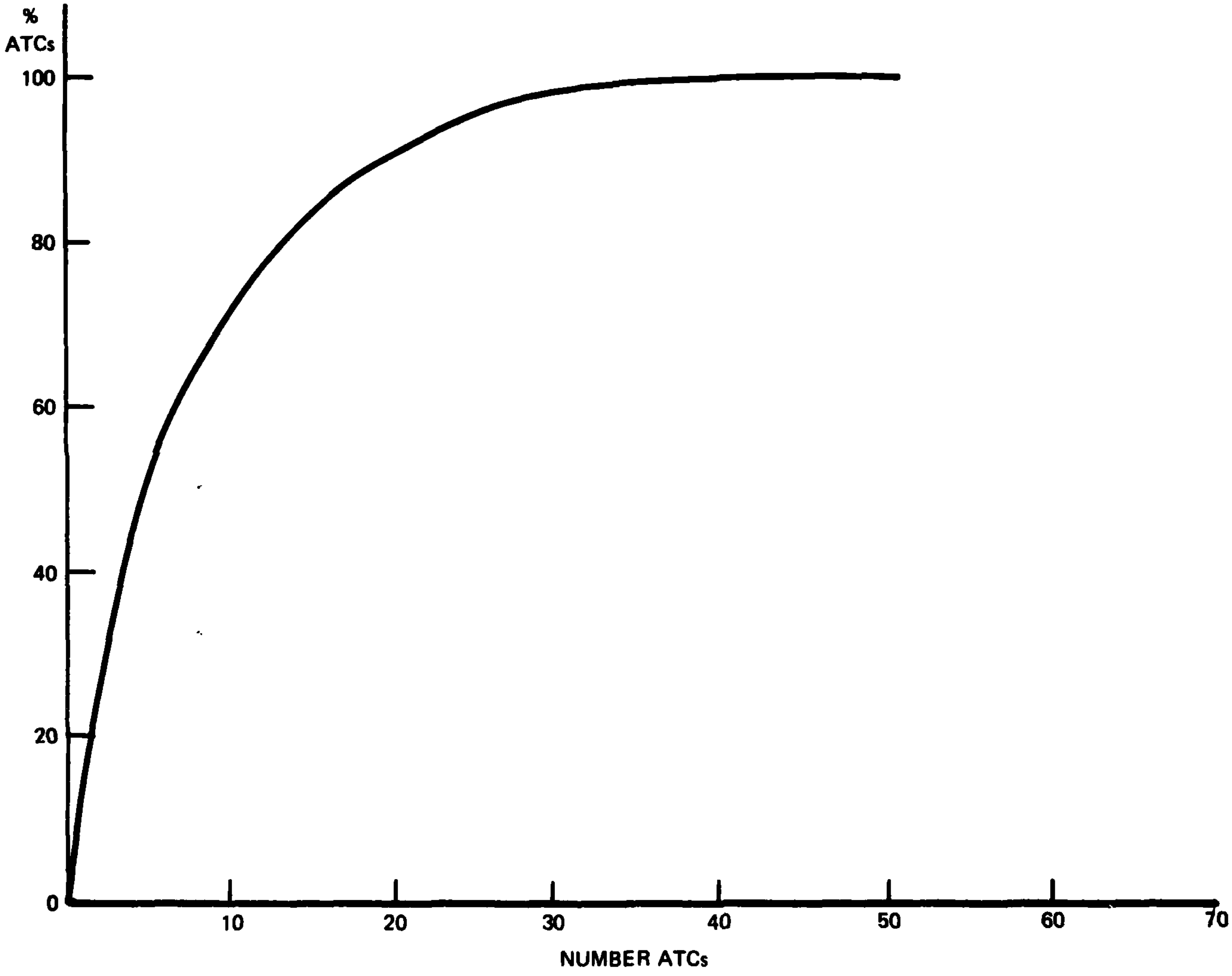
Figure I-68

The same thing holds true for reject codes as for the total population of ATCs. A very few codes account for the majority of usage. Five codes accounted for 50% of the usage, 11 for 75% of the action. There were 22 codes with 0.5% or less usage and six that experienced no usage at all during the base period.

The curve for reject codes as shown in Figure I-69 is very similar to the curve for all ATCs. The reject codes with a high frequency of occurrence should be reviewed to determine the cause for the high rates and those with an extremely low usage or no usage at all should be reviewed to determine if the codes not being used can be consolidated with other codes or eliminated entirely. Reject Code 51 showed no usage in the data collection; however, this code is manually applied and mailed to the submitter by DLA. Therefore, although there is known usage it cannot be statistically measured from the ATC distribution in the data collection.

Reject codes with the highest incidence of occurrence are shown in Figure I-70.

CUMULATIVE FREQUENCY DISTRIBUTION FOR REJECT CODES



SOURCE: DODSSR DATA COLLECTION; STEADY STATE POPULATION

Figure I-69

SYSTEM REJECT CODE RANKING

Rank	Category	ATC	Definition	%
1	Other	36	Exception Data	13.2
2	Other	57	Multiple SSR Same Cycle	12.6
3	Invalid Data	52	Mandatory PDSSR Data	8.6
4	Invalid Data	07	Unit Price Error	8.1
5	NSN/PSCN	YR	Nonstandard Item	7.6
6	Invalid Data	32	Mandatory LISSR Data/ Missing Cards	6.4
7	NSN/PSCN	34	NSN Match	5.1
8	Catalog/Tech. Data	YS	Inadequate Tech. Data	4.5
9	FSC/Manager	YC	FSC/Manager Error	3.7
10	FSC/Manager	YK	Manager Error	2.6
11	Catalog/Tech. Data	14	Part Number Format	2.4
12	Catalog/Tech. Data	19	MIL SPEC Problem	2.3
13	Invalid Data	23	Quantity Error	2.1
14	Invalid Data	30	AAC J/Qty Error	2.0
15	Match/Duplicate	42	Duplicate NSN	2.0
16	Catalog/Tech. Data	44	No Tech. Data	1.8
17	Other	08	Delayed Reply to Offer	1.7
18	Catalog/Tech. Data	21	Part Number/Tech. Data	1.5
19	Invalid Data	01	Part Number/FSCM Missing	1.4
20	NSN/PSCN	YJ	Cancelled/Replaced	1.1
21	NSN/PSCN	45	AAC F, T, V, W, or Y	1.1

Source: DODSSR Data Collection; Steady State Population

Figure I-70

This table shows all reject codes that experienced a 1% or greater total frequency. The codes are ranked showing the code with the highest frequency of occurrence as number one and the lowest frequency with the highest numerical rank. These 21 reject codes account for almost 90% of all the rejects; and it is here where the most can be gained by determining the reasons for occurrence and correcting the causes for these rejects.

The rejects were reviewed by Component to determine if there was a Component influence from a submitter or receiver standpoint, that was weighting the code in the rankings due to heavy usage by a particular Component. If a code is used uniformly by all Components, then the tendency is to interpret the reject as a policy, procedure or total system problem, whereas if a single Component is using a particular code so much that it influences the total distribution, the tendency is to view it as a Component problem.

Figure I-71 shows a comparison of the top ten system rejects and the corresponding Component rank of the occurrence of that code within the Component. There was remarkable consistency of the occurrence of codes among Components for the top ten system rejects. Those in the second ten or 10 through 20 of Figure I-70 were quite variable among the Components in terms of occurrence, so detailed analysis for comparison purposes among the Components was limited to the top ten system rejects in this table.

REJECT CODE COMPARISON BY SUBMITTER
(System Top Ten Reject Codes vs. Component Ranking)

ATC	Rank				
	Total	Army	Navy	Air Force	Marine Corps
36	1	4	4	1	3
57	2	14	1	7	5
52	3	2	5	4	4
07	4	1	3	16	*
YR	5	8	2	18	9
32	6	5	*	2	2
34	7	7	6	5	7
YS	8	15	7	3	20
YC	9	10	8	6	6
YK	10	6	9	14	10

Source: DODSSR Data Collection; Steady State Population

* Too low to be ranked.

Figure I-71

Reject Code 36 was consistently high among all the Components, but ranked number one in the Air Force. This code occurred 19.4% of the time in the Air Force. The three ALCs with the highest volume of SSR traffic recorded this as their number one reject. The Air Force undoubtedly is a significant factor in the number one rating for this code, although it was high in the ranking for all the Components. This code is used when no other code is appropriate or when exception data in the form of "in the clear remarks" are desired to be provided with the reject. The high rate of this reject is exceptionally bad because the remarks must currently be mailed to the submitter by the IMM causing a delay in processing. A large number of the rejects in this category are associated with part numbers that are incorrect or are improperly formatted IMC conflicts, offer conflicts and offshore procured items. Consideration should be given to identifying all the types of actions encompassed by ATC

36 and using a specific ATC to identify them so that the advice information can be transmitted to the SICC by AUTODIN. An Advice Card with a reference information field should be considered for all actions remaining under ATC 36. The reference information field could contain "in the clear" reference information needed to provide explanatory advice to the SICC so that both the Advice Code and the explanatory information could be sent together over AUTODIN. This would preclude the necessity of matching up of an ATC 36 advice over AUTODIN and the explanatory advice currently provided by manual DLA Form 546. The DLA Form 546, although entitled "Standard/Alternate Item Referral" is used to provide exception information for ATC 36 rejects as well as for offers.

ATC 57 indicates that there have been multiple increases/decreases to a quantity field within the same cycle. This code is applied when there are a number of SSRs for the same item of supply from the same activity included in the same processing cycle by DLA; and the technical subsystem of DLA cannot accommodate the multiple actions. The frequency of this code is heavily dominated by the Navy and by SPCC in particular. There was a 28.2% reject rate experienced by SPCC for this condition. It was the top reject rate experienced by SPCC during the timeframe. This is attributed to the tendency of SPCC to accumulate and batch SSRs that are mailed out in a package. The Navy system does not have an automated convention for rolling up requirements for the same item and sending out a single SSR with multiple requirements. SSRs are also treated on an individual basis by the IMM on the receiving side. Each SSR is treated individually by the IMM for the purposes of making range and depth stockage considerations for new items and for the purposes of changing the management criteria for an existing managed item. Consideration should be given to accumulating requirements for the same item by the SICC or the IMM, or both. In the event that accumulation is not desired prior to making a support decision, consideration should be given to maintenance of a demand history of the requirements quantities in SSRs which could be used to forecast the accumulative effect of requirements for SSR items for the purpose of modifying previous stockage and management decisions made by the IMM on the basis of individual SSRs.

ATC 52 rejects were experienced fairly uniformly by all the Components. This reject occurs when mandatory data elements are missing or incorrect on a PDSSR record. If a PDSSR is rejected, all the associated line item requests must be rejected along with the program data card. Because of the incidence of occurrence of this reject code, the Study Team conducted a review of the data elements in the PDSSR card to determine the relative usefullness of the data elements and the appropriate validation criteria for this card in order to reduce the incidence of this reject.

ATC 07 is heavily influenced by the 16.3% reject rate for SPCC in the Navy even though this was the top ranked reject in the Army. The Navy accounted for about 38% of the total reject advice while the Army experienced about 9%. These volumes are directly related to the request traffic experienced by the Components. Unit price is currently a required data element for part numbered, inactive NSN or PSCN items. It is not required for active stock numbered items. An IMM can not distinguish between a Condition 1 (active) and Condition 2 (inactive) NSN through the use of control data in an SSR such as the document identifier code. Certain data elements are required by the SSR Procedures for inactive NSNs that are not required for active NSNs such as unit price, production leadtime, IMC, and procurement method code. The IMM must differentiate between a Condition 1 or 2 item by detecting the presence or absence of a combination of these data elements. During the data collection period some activities were entering some but not all of the required data elements for a Condition 2 item in a Condition 1 request resulting in the rejection of the SSR when such data elements as the unit price were excluded but others such as procurement method code were included. The distinction and necessity for Condition 1 and 2 SSRs for NSN items need to be clarified along with the necessity for differing data element requirements for active verus inactive NSN items.

The Navy recorded the highest YR reject rate. The 18.6% YR reject rate experienced by SPCC is the principal reason for the 7.6% system rate for this code. Inadequate DLSC screening is considered a major cause for a YR reject.

ATC 32 involves a reject due to validation because mandatory data elements on a request transaction are missing or incorrect. This was a top ten item for all Components, except the Navy. The percentage for this reject for the Navy was so low that it did not qualify for ranking. This reject rate is dominated principally by the Air Force with SAALC experiencing an 18.1% rate, SMALC 11.0%, and WRALC 8.1%.

ATC 34 experienced a consistent ranking among all the Components, as did Code YC. The Air Force seemed to be the dominant influence for inadequate technical data, Code YS. Code YK was also fairly uniform among the Components; however, it was not a top ten item for the Air Force.

Figures I-70 and I-71 summarized the top ten reject codes for the total SSR system and highlighted those rejects that were heavily influenced by a particular Component or activity. Activity or Component influence upon the system is predicated upon <u>both</u> a high reject rate for particular code <u>and</u>

the volume of SSR requests and associated advice experienced by the activity or Component. Figure I-72 shows reject codes that were top ten rated codes for a particular Component but were not top ranked in the system as a whole.

<u>REJECT CODE COMPARISON BY SUBMITTER</u>
(Component Top Ten Reject Codes vs. System Ranking)

Component	ATC	Component Rank	Component Percent	System Rank	System Percent
Army	39	3	10.2%	*	*
	14	9	2.2	11	2.4%
Navy	45	10	1.6%	21	1.1%
Air Force	44	8	4.2%	16	1.8%
	14	9	4.0	11	2.4
	19	10	4.0	12	2.3
Marine Corps	30	1	30.0%	14	2.0%
	YU	8	3.4	*	*

Source: DODSSR Data Collection; Steady State Population

* Too low to be ranked.

Figure I-72

The Army accounted for about 9% of the total system reject advice; therefore, a particular reject code would have to have a very high experience rate throughout the Army to influence the system total. Reject Codes 39 and 14 were top ten rejects in the Army but did not make the list for the system. Code 39 even though ranking number three in Army, was unranked for the total system. ATC 39 is a validation error pertaining to the Reference Number Justification Code. Code 14 ranked 11 in the system was number nine rank in the Army. The rate for ATC 39 in the Army is attributable to TSARCOM with a 31.5% reject rate for this code and experiencing about one third of the Army's reject advice. The Component rate for Code 14 was stable around the Army average for that code.

The Air Force had three codes in their top ten that were in the top 20 for the system, although the Air Force rate was much higher than the system average. The rate for ATC 44 is attributed to Sacramento which showed a 7.8% ATC 44 rate with 51% of the Air Force reject volume. ATC 44 indicates technical data was not supplied for an item requiring technical data

and an appropriate justification code was not supplied. ATC 14 is attributed to San Antonio and Warner Robins with 5.1% and 6.6%, respectively. San Antonio is primarily responsible for the reject rate for ATC 19 in the Air Force.

The 30% Marine Corps rate for ATC 30 is attributed to an interpretation problem regarding the use of Acquisition Advice Code J (central procure). The procedures are not clear and the interpretation by SSR submitters is varied. The strict interpretation of the code means that if both the retail and replenishment quantity fields of the SSR are zero, the AAC should be J and if the AAC is J, the quantity fields should be zero. Analysis of the usage of AAC J is provided later on in this Chapter under data element usage. Code YU indicates the NSN is not in DLSC records and will not be supported. Either there is a data entry problem in the SSR or there is inadequate DLSC screening being performed.

The previous tables and charts have indicated that some of the total system high frequency rejects are being experienced rather uniformly across Components and activities within Components. Some of the high system rejects are heavily influenced by a particular Component or even a single activity within a particular Component due to the volume of business in SSRs conducted by the Component or activity. Some activities are experiencing an extremely high reject rate for a particular reject code, but this does not show up in the system totals because the activity business volume is so low. This does not lessen the importance of the reject rate to the particular activity that is experiencing the condition, and should not be ignored simply due to sheer statistical volumes. The next series of charts displays the top rejects by activity within Component to show the incidence of rejects that are activity significant, but not system significant due, to relative statistical volumes.

Figure I-73 presents the rejects experienced within the Army. Please keep in mind that the percentages shown within the table are the rates experienced by the individual activity as a percentage of its total rejects <u>not</u> as a percentage of the system total. In order to equate the rates with their relative impact on system totals, the relative volume of business for each activity <u>within Component</u> is shown at the activity columnar heading and the volume of business of the Component to system total is shown at the top of the Component column.

There was quite a large variance among the top rejects for Army activities. But, at the same time, the volume of business varied significantly among Army activities. Note that ARRCOM had only 2.8% of the Army business while Army had 8.6% of the system total. The top system reject (ATC 36)

TOP TEN REJECT CODES FOR ARMY
(SICC Activity/Component)

Rank	ARRCOM 2.8%		CERCOM 39.8%		MIRCOM 4.3%		TARCOM 21.0%		TSARCOM 32.1%		Army 8.6%	
	ATC	%	ATC	%	ATC	%	ATC	%	ATC	%	ATC	%
1	32	17.6	07	52.6	36	12.5	52	40.0	39	31.5	07	21.3
2	52	13.5	36	9.8	32	11.6	32	16.8	YK	16.8	52	15.3
3	36	12.2	34	7.1	52	11.6	36	8.3	52	16.1	39	10.2
4	34	8.1	32	3.8	YR	10.7	YS	3.4	36	7.3	36	8.9
5	YR	5.4	YR	3.3	04	6.3	02	3.1	57	5.4	32	6.8
6	YC	5.4	52	3.3	30	6.3	21	2.5	34	3.9	YK	6.7
7	30	4.1	14	2.9	YS	3.6	01	2.5	32	2.5	34	4.7
8	01	4.1	04	2.1	YK	3.6	YC	2.0	YC	1.9	YR	2.9
9	18	4.1	YK	2.0	14	3.6	YR	1.8	YR	1.8	14	2.2
10	04	2.7	01	1.5	19	3.6	14	1.8	14	1.7	YC	1.7

Source: DODSSR Data Collection, Steady State Population

Figure I-73

appeared in the top ten for all the Army activities. But, note the 52.6% reject rate for ATC 07 for CERCOM, 40.0% for ATC 52 for TARCOM and the 31.5% error rate for ATC 39 for TSARCOM. These rates are attributed to activities differences.

The Navy reject rates are shown in Figure I-74. The Navy experienced 37.7% of the system business so Navy reject rates naturally have a greater system total impact than Army. For the same reason the activity rates for ASO and SPCC in the Navy pretty much parallel the system rejects in terms of ranking although the percentages are different. Note that SPCC dominates the total Navy reject percentages because of the large percentage of the Navy business that they have. Once again, the reject rates for different codes are attributable to activity differences.

TOP TEN REJECTS FOR NAVY
(SICC Activity/Component)

Rank	SPCC 86.3% ATC	SPCC 86.3% %	ASO 13.7% ATC	ASO 13.7% %	Navy 37.7% ATC	Navy 37.7% %
1	57	28.2	YS	18.0	57	24.6
2	YR	18.6	52	17.4	YR	16.5
3	07	16.3	36	14.5	07	14.1
4	36	8.5	34	14.0	36	9.3
5	52	6.9	08	5.1	52	8.3
6	34	2.2	YK	4.2	34	3.8
7	YC	1.8	19	3.5	YS	2.7
8	45	1.8	YC	3.1	YC	2.0
9	02	1.6	YR	2.7	YK	1.8
10	42	1.4	04	2.5	45	1.6

Source: DODSSR Data Collection; Steady State Population

Figure I-74

The three largest ALCs in terms of SSR volume have similar ranking among themselves and with the total system as shown in Figure I-75. Rankings for OCALC and OOALC are different from the other ALCs and between themselves. This is attributed to the extremely low volume of SSR activity they experienced and to activity differerces.

TOP TEN REJECTS FOR AIR FORCE
(SICC Activity/Component)

Rank	OCALC 1.2%		OOALC 1.3%		SAALC 27.2%		SMALC 51.0%		WRALC 19.3%		Air Force 37.8%	
	ATC	%	ATC	%	ATC	%	ATC	%	ATC	%	ATC	%
1	YR	20.3	57	26.4	36	20.3	36	17.9	36	23.3	36	19.4
2	52	11.3	36	12.2	32	18.1	32	11.0	YS	10.1	32	12.2
3	YK	9.8	34	11.5	52	8.9	52	8.1	YC	9.8	YS	7.1
4	YS	7.5	30	10.1	34	7.8	44	7.8	42	9.1	52	6.7
5	33	7.5	YS	8.1	YC	6.4	YS	6.7	32	8.1	34	6.6
6	34	7.5	04	4.7	YS	5.6	34	6.6	14	6.6	YC	5.9
7	36	7.5	32	4.7	14	5.1	19	6.2	YK	5.0	44	4.2
8	01	5.3	YK	4.7	01	4.7	57	4.5	34	4.5	57	4.2
9	04	5.3	YR	4.1	21	3.2	YC	4.4	57	3.8	14	4.0
10	YC	3.8	70	3.4	57	3.1	08	4.3	13	2.1	19	4.0

Source: DODSSR Data Collection, Steady State Population

Figure I-75

The Marine Corps has only one SICC SSR submitter, the Marine Corps Logistics Support Base, Atlantic (MCLSBA) so the information contained in Figure I-76 for the Marine Corps as a Component apply to their activity MCLSBA; therefore, no further elaboration will be provided on an activity basis.

TOP TEN REJECTS FOR MARINE CORPS
(Activity/Component)

Rank	MCLSBA - 5.3%	
	ATC	%
1	30	30.0
2	32	9.5
3	36	9.0
4	52	7.8
5	57	6.9
6	YC	5.8
7	34	3.6
8	YU	3.4
9	YR	2.8
10	YK	2.6

Source: DODSSR Data Collection; Steady State Population

Figure I-76

The previous tables showed reject rates as a function of the SICC submitter. The next two tables will show the reject rates as a function of the IMM receiver. Reject codes for the Defense Logistics Agency and General Services Administration as CIMM activities are provided in Figure I-77. The four DLA Supply Centers are also listed because it would not be meaningful to provide information for DLA and GSA as Component alone and compare with the system total because DLA accounts for 96.8% of the advice traffic, while GSA accounts for only 1.5%. The system figures are totally dominated by DLA. However, comparing the Centers with each other and GSA as activities is more meaningful.

The DLA Centers were similar in their reject patterns among themselves and with the system total, although there are some activity differences. The 9.1% rate for ATC 30 for DCSC is significantly above the system average. There is no evidence to indicate why this reject should be higher for DCSC than for any other IMM. The 8.5% rate for ATC 44 for DGSC is also significantly higher than the system average. In this

TOP TEN REJECTS FOR DLA/GSA
(CIMM Activity/System Total)

Rank	DCSC 10.2%		DESC 49.9%		DGSC 17.5%		DISC 22.4%		GSA		System Total	
	ATC	%	ATC	%	ATC	%	ATC	%	ATC	%	ATC	%
1	36	13.3	57	20.5	36	12.8	52	17.9	42	43.4	36	13.2
2	30	9.1	YR	13.6	07	12.3	36	14.1	YC	15.4	57	12.6
3	23	8.7	36	12.7	44	8.5	32	11.2	14	7.0	52	8.6
4	YK	8.3	07	10.5	YC	7.2	34	6.9	70	5.9	07	8.1
5	YC	8.2	52	6.0	52	6.8	57	6.9	36	5.5	YR	7.6
6	32	7.8	32	4.3	YS	6.8	30	3.8	34	4.6	32	6.4
7	52	6.1	19	4.2	34	6.5	07	3.8	20	3.3	34	5.1
8	34	4.0	YS	4.1	32	6.3	YS	3.6	YS	2.4	YS	4.5
9	14	4.0	34	3.6	42	4.7	04	2.7	04	2.4	YC	3.7
10	YS	3.6	08	3.3	57	4.2	YC	2.7	YK	2.0	YK	2.6

Source: DODSSR Data Collection; Steady State Population

Figure I-77

regard it is pointed out that DGSC and GSA showed a higher rate for rejects in the catalog/technical data reject category than other IMMs. Perhaps this is a function of the commodity area, since these two IMMs manage similar commodity categories than is associated with GSA and other DLA Centers. The GSA showed an entirely different reject pattern than DLA. The 43.4% reject rate for ATC 42 (duplicate NSN in this PCC and DOR, same item serial number appears on two or more LISSRs with different identification data) is extremely high as compared to the system average total of 2.0%. Since GSA receives a large percentage of its SSRs as nonprovisioning requests, this could partly explain the problems since there is not as great a control on manually generated nonprovisioning SSRs as for provisioning SSRs. There was also evidence during field research that there is differing interpretations and application of ATC 42 which will be covered in Chapter V, Volume I.

The WIMM statistics in Figure I-78 also showed ATC 36 as the number one reject code. Seven of the top ten reject codes for WIMM were common to CIMM although the rankings were different after the first rank. The percentages of WIMM rejects are relative to the WIMM volume which is extremely small in comparison with the CIMM volume.

f. Followup/Response Analysis. The SSR Procedures specify that a submitter of an SSR may follow up for advice on the status of an SSR when advice has not been received from the IMM. Followup may be made for initial advice on the support decision of a request or for advice on the assignment of an NSN for a part numbered SSR that has been accepted for support by an IMM.

(1) Relationships Between SSR Requests/Followups/Responses

Figure I-79 shows the relationships of followups to request volumes for SSR submitters.

It appears that those Components and activities that have automated systems generally tend to generate more followups than those with manual systems. At the time of the data collection, the Army, SPCC in the Navy and the Marine Corps were using manual systems for the generation of followups; therefore, their percentages of followups were much lower than their request rates. The Air Force has an automated system for creation of followups. The SSR Procedures allow the IMM 25 days from the date of receipt of an SSR to provide initial advice and 60 days from date of receipt of an SSR to give NSN advice. The procedures specify that the SICC may followup 35 days after submission of the SSR for initial advice or 70 days for NSN advice. The Air Force system causes a followup to be generated using the date of request in the SSR as the starting point. The DOR is the date the SSR was created by the computer. The SSR must then be forwarded to the functional organization element for matching with

TOP TEN REJECT FOR WIMM ITEMS
(SICC Activity/Component)

Rank	Army 16.2%		Navy 69.9%		Air Force 11.7%		MC 2.2%		WIMM Total	
	ATC	%	ATC	%	ATC	%	ATC	%	ATC	%
1	36	55.4	34	20.4	32	51.7	YK	54.5	36	22.3
2	63	22 9	YK	16.8	36	16.7	YJ	18.2	YK	14.9
3	YK	8.4	36	16.2	YJ	8.3	YH	9.1	34	14.3
4	YU	4.8	YS	15.1	YK	5.0	YR	9.1	YS	11.2
5	YS	3.6	57	7.8	52	5.0	YU	9.1	63	8.6
6	42	3.6	63	6.4	YU	3.3	-	-	32	6.5
7	32	1.2	YR	3.9	63	3.3	-	-	57	5.5
8	-	-	35	3.9	YR	1.7	-	-	YR	3.1
9	-	-	YJ	2.0	YH	1.7	-	-	YJ	2.7
10	-	-	13	1.1	59	1.7	-	-	35	2.7

Source: DODSSR Data Collection; Steady State Population

Figure I-78

REQUEST/FOLLOWUP/RESPONSE RELATIONSHIPS FOR SUBMITTER
(Percent Transaction Volume by Transaction Type)

SICC	Transaction Type		
	Request	Followup	Response
ARRCOM	0.2%	0.2%	0.2%
CERCOM	2.3	0.0	0.0
MIRCOM	0.6	0.0	0.0
TARCOM	1.0	0.1	0.1
TSARCOM	4.8	0.1	0.1
Army	8.9%	0.4%	0.4%
ASO	8.6%	25.3%	4.8%
SPCC	25.6	0.0	0.0
Navy	34.2%	25.3%	4.8%
OCALC	0.3%	0.0%	0.0%
OOALC	1.8	5.8	2.0
SAALC	9.9	18.3	27.5
SMALC	23.4	29.7	40.9
WRALC	8.8	19.5	22.7
Air Force	44.2%	73.3%	93.1%
MCLSBL	5.2%	0.6%	1.1%
MC	5.2%	0.6%	1.1%
EGICP	0.2%	0.0%	0.0%
SICP	0.1	0.0	0.0
AICP	0.0	0.0	0.0
CG	0.3%	0.0%	0.0%
Other	7.2%	0.4%	0.6%
Total	100.0%	100.0%	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-79

drawings and packaging the item for mailing. The combination of internal wait and processing time prior to mailing the SSR, the actual intransit time for mailing and the internal processing time at the IMM can cause advice to be received after 35 days from the creation of an SSR in the Air Force; resulting in the creation of followups because advice has not been received within 35 days of the DOR. This combination of circumstances causes the Air Force to have a disproportionate number of followups in relation to the other Components. The differences in followup and response rates for SPCC in the Navy and the Air Force are attributed to a combination of loss of transactions to the data collection and the cutoff points for the data collection, and use of CX1 advice transactions in place of a CX4 response.

Figure I-80 provides the relationships for IMMs as receivers of SSRs. The table includes figures for both CIMM and WIMM items. The differences are not quite so dramatic as for submitters. However, there does appear to be a common thread as relates to the differences between automated and manual systems. The manual systems of the Services for WIMM items and GSA for CIMM items seem to receive a disproportionate number of followups in relation to the requests that they receive. The number of responses however seem to be signficantly lower than their followups indicating a delay in providing a response, or lack of a response, or use of a CX1 in place of a CX4. During field research, it was learned that some of the Services were responding to followups by letter rather than using advice cards as prescribed by the SSR system. Some are using CX1 advice transactions in place of response transactions. The volume of followups for DLA seems to be rather low as compared to the number of responses provided. It is believed that some of the followups sent might not be included in the data collection.

(2) <u>Response Analysis</u>

Figure I-81 provides statistics on the categories of advice received by SICCs to their followups. The data is shown by Component since the volume is so low on an activity basis, except for Air Force. The rate for No Record of the original SSR is much too high. This rate suggests that the submitters are following up too soon or there is a loss of SSR records being transmitted from the SICC to the IMM. The procedures currently call for the SSR to be mailed. Advice transactions such as followups and responses may either be mailed or sent over AUTODIN. The shorter transmission time for the followups could also cause the followup to be received prior to the original request resulting in a "no record" condition. Logic would seem to dictate that the "pending" condition rate should be higher. If a SICC has not received advice it would seem that the SSR was delayed and would still be pending when a followup was forwarded. About 53% of the

REQUEST/FOLLOWUP/RESPONSE RELATIONSHIPS FOR RECEIVER
(Percent Transaction Volume by Transaction Type)

IMM	Transaction Type		
	Request	Followup	Response
ARRCOM	0.1%	0.8%	0.6%
CERCOM	0.3	0.3	0.0
MIRCOM	0.1	0.1	0.0
TARCOM	0.2	0.6	0.1
TSARCOM	0.1	0.4	0.1
Army	0.8%	2.2%	0.8%
ASO	0.3%	1.8%	0.0%
SPCC	0.4	2.6	0.1
Navy	0.7%	4.4%	0.1%
OCALC	0.1%	0.5%	0.0%
OOALC	0.1	0.4	0.0
SAALC	0.1	0.6	0.1
SMALC	0.1	0.2	0.0
WRALC	0.2	0.4	0.1
Air Force	0.6%	2.1%	0.2%
MCLSBL	0.1%	0.4%	0.0%
MC	0.1%	0.4%	0.0%
DCSC	9.2%	5.3%	6.7%
DESC	53.0	43.9	46.5
DGSC	9.8	3.0	3.9
DISC	22.7	32.5	41.1
DLA	94.7%	84.7%	98.2%
GSA	2.4%	6.0%	0.7%
Other	0.7%	0.2%	0.0%
Total	100.0%	100.0%	100.0%

Source: DODSSR Data Collection; Steady State Population

Figure I-80

time a support advice decision (accept, reject, offer) has already been made when the followup is received. The question then, arises as to whether the followup is being received too soon, or whether the responses are not being properly recorded in the control files of the SICC.

CX4 RESPONSE TO FOLLOWUPS BY SUBMITTER COMPONENT
(Row Percent)

SICC	Advice Category				
	Accept	Offer	Pending	Reject	No Record
Army	40.7%	0.0%	11.1%	7.5%	40.7%
Navy	65.2	2.2	10.4	19.0	3.2
Air Force	33.2	3.2	31.0	14.7	17.9
MC	60.0	7.1	1.4	10.1	21.4
Total	35.2%	3.2%	29.4%	15.0%	17.2%

Source: DODSSR Data Collection; Steady State Population

Figure I-81

Responses to followups sent out by IMMs are shown in Figure I-82. The Pending and No Record rates for GSA appear to be more in line with expected responses than for the other Components. The accept rate for the Air Force indicates that either they are receiving followups too soon or they are using the response transaction to provide "original" advice. The SSR Procedures specify that a response to a followup will consist of existing advice previously provided and recorded in the suspense file of the IMM, pending advice if there is a record of the original request with no record of advice, or a No Record response if there is no record of the original SSR in the suspense file of the IMM. The procedures seem to imply that "file status" will be provided in a CX4 response to an SSR followup. If no support decision is in the file and a Pending Advice was provided by the response, then a CX1 advice card would follow with the support decision. The procedures do not discuss or differentiate between the use of a CX1 in place of a CX4 or a CX4 in place of a CX1, although either case is not excluded and can occur in practice. It would seem that if a support decision is imminent, either a CX1 or CX4, but not both would be used, with a convention to indicate that the advice accomplishes both the providing of support advice and responds to the followup transaction.

CX4 RESPONSE TO FOLLOWUP BY RECEIVER COMPONENT
(Row Percent)

IMM	Advice Category				
	Accept	Offer	Pending	Reject	No Record
Army	97.9%	0.0%	0.0%	0.0%	2.1%
Navy	50.0	0.0	0.0	50.0	0.0
Air Force	83.3	0.0	0.0	16.7	0.0
MC	100.0	0.0	0.0	0.0	0.0
DLA	34.8	3.3	29.3	15.1	17.5
GSA	11.1	0.0	88.9	0.0	0.0
Total	35.2%	3.2%	29.4%	15.0%	17.2%

Source: DODSSR Data Collection; Steady State Population

Figure I-82

Because of the predominance of DLA in terms of the volume of requests received, and by the same token the number of followups received, Figure I-83 was generated to determine if there was any activity differences among the Defense Supply Centers. Based upon the variances shown, there does appear to be some significant activity differences among the Centers. The lower instance of "No Record" advice for DCSC would seem to indicate better control procedures or that SSRs that had been mailed were being introduced to the computer more efficiently. It would appear that in many cases DCSC has made a support decision, but is receiving the followup too soon or the advice is not being properly controlled and recorded by the SICC receiving the original advice. The high "No Record" rates for the other Centers are attributed to a combination of early followups, slow mail transmission for requests as opposed to more rapid transmission of followups over AUTODIN, and internal delays in introducing SSRs into the suspense files of the IMM.

CX4 RESPONSE TO FOLLOWUPS BY DEFENSE SUPPLY CENTER
(Row Percent)

CIMM	Advice Category				
	Accept	Offer	Pending	Reject	No Record
DCSC	44.3%	0.0%	28.6%	14.1%	13.0%
DESC	37.8	5.7	27.7	20.8	8.0
DGSC	45.1	0.4	28.2	14.9	11.4
DISC	28.8	1.3	31.3	9.0	29.6

Source: DODSSR Data Collection; Main Population

Figure I-83

(3) No Record Response

The 17.2% of No Record responses was considered too high to be acceptable. Figure I-84 was generated to determine if there was any Component or activity influencing the high frequency of No Record actions. The statistics are shown for the total population of data (Main) and for the first half (Transition) and for the second half (Steady State) of the data collection. The Air Force totally dominates the number of No Record responses from a submitter standpoint. This is due not only to the number of followups sent due to the automated system in the Air Force, but to the practice of using the date of the request as opposed to the date of submission to generate followups.

This practice causes a followup to be generated approximately two weeks early than if the date of submission were used. The number of followups would be reduced by the number of advice transactions that might have been received during the two week timeframe. The early followups coupled with the mailing of the SSR and use of AUTODIN for the followup combine to cause the followup to be introduced to the suspense file prior to the original request being recorded. This results in a No Record response being sent on the basis of the followup. The Air Force then generates another SSR on the basis of the No Record response. This SSR duplicates the previous one, except for the date of request. If the first request is then received after the followup it will be processed and advice provided. If the second SSR is received and it falls into a different cycle, which it probably will, it too will also be processed with the possibility of double consideration of the quantitative requirements, contingent upon whether the SSR is for an NSN item or part numbered item and the method of stockage determination made upon the first SSR that was processed. Clearly there needs to be some change made on both the sending and receiving sides to correct these conditions.

CX4 NO RECORD RESPONSE BY SUBMITTER
(Column % ATC 66 by Population Period)

SICC	Population		
	Main	Transition	Steady State
Army	1.0%	2.0%	1.0%
Navy	2.3	6.3	0.9
Air Force	95.7	91.1	96.8
MC	0.9	0.4	1.3
Other	0.1	0.2	0.0
Total	100.0%	100.0%	100.0%

Source: DODSSR Data Collection

Figure I-84

No Record responses by receiver are shown in Figure I-85. The higher rate for DLA as opposed to the Services is attributed to the volume of CIMM traffic received by DLA as compared with the small volume of WIMM traffic the Services receive. Service volumes are WIMM; DLA and GSA volumes are CIMM. Except for the steady state period, DLA's No Record advice is lower than its request volume. The 3.7% rate for the Navy in the total population and 5.0% for GSA in the transition periods are much higher than the proportional number of requests that they receive. The dropoff in the steady state period is attributable to the number of followups sent during the conversion to the new procedures and the institution of associated new processing systems. The high rate for DLA in the steady state period is attributed to a combination of early followups by SICCs, use of mail for requests and AUTODIN for followups, and delayed entry of the SSR into the suspense file by the IMM.

CX4 NO RECORD RESPONSE BY RECEIVER
(Column % ATC 66 by Population Period)

IMM	Population		
	Main	Transition	Steady State
Army	0.6%	1.8%	0.1%
Navy	3.7	0.9	0.0
Air Force	0.2	0.5	0.0
MC	0.1	0.0	0.0
DLA	93.3	91.8	99.9
GSA	2.0	5.0	0.0
Other	0.1	0.0	0.0
Total	100.0%	100.0%	100.0%

Source: DODSSR Data Collection

Figure I-85

5. Transaction Chain Analysis. Chapter IV, Volume I, described the different types of SSR transaction record types, and indicated how these transactions are combined into SSR packages. Document Identifier Codes (DICs) identify the basic transaction types. Type of Change Codes (TCCs) indicate whether the transaction is an initial or change transaction. Transaction Codes called Action Taken Codes (ATCs) further define specific actions that have been taken on an SSR and are used in advice cards. When an SSR is forwarded by a SICC to an IMM it initiates a series of events that culminate in the final acceptance or rejection of supply support for an item. The events in the SSR chain are identified by a combination of the DIC, TCC and ATC. The individual events are tied to each other through a series of

control elements that act as links in the chain to permit the relation of one event to another. Because of the number of different types of events and the number of different combination of events that can occur, the study group decided to perform an analysis of SSR transaction chains to see what combinations were occurring in practice and what was the net effect.

a. <u>SSR Chain of Events</u>

(1) <u>Event Classification</u>

Paragraph C.4. of this Chapter provided a description and analysis of the different types of advice provided on SSRs. Figure I-33 categorized ATCs into ATC categories. This table was used in conjunction with the breakdown of transaction types provided in Chapter IV, Volume I, to classify SSR transactions into events. Figure I-86 reflects the results of this classification.

<u>TYPES OF EVENTS</u>

Type	1-Digit	2-Digit	3-Digit
Request	0	1 to 5	1 to 3
Accept	1	0	1 to 5
Offer	2	0	1 to 2
Status	3	0	1 to 3
Reject	4	1 to 7	Alpha/ Numeric
Reply	5	1 to 2	1 to 2
Followup	6	0	0
Response	7	0	1 to 2

Source: DODSSR Data Processing; Specification No. 17

Figure I-86

Supply support request transactions were classified into eight different types of events. A series of three digit codes were assigned to the different types of events to permit computer analysis of SSR chains and the relationship of events in a chain. The first position of the code (1-DIGIT) was used to identify the basic events. Since a chain commences with a request, a numeric zero was used to identify a request and other numeric digits from 1 to 7 were used to identify events that represented subsequent actions taken upon the original request. Numbers were assigned in ascending sequence to the events in the preferred and logical order of occurrence.

Some of the events were divided into one or more subcategories within the basic event, so the second and third digits were used to reflect this categorization. For example an SSR can be an initial or change request for an NSN or part numbered item sent to a CIMM or WIMM. The categorization using the codes is shown below:

Example 1

1 - DIGIT - Code 0 is assigned to indicate that the basic event is a request transaction.
2 - DIGIT - Code 1 is assigned to indicate a request for an NSN item from a CIMM.
3 - DIGIT - Code 1 is assigned to indicate an initial submission.

The codification indicates the request of an NSN item from a CIMM.

Example 2

1 - DIGIT - Code 0 is assigned to indicate that the basic event is a request transaction.
2 - DIGIT - Code 5 is assigned to indicate a request for a part numbered item from a WIMM.
3 - DIGIT - Code 2 is assigned to indicate a deletion without replacement of a previous request.

The same codification system was used to identify the other types of events including the identification of reject advice into the subcategories previously shown in Figure I-33 and also to indicate the specific rejection within the reject subcategory.

(2) Control Elements. There are a number of data elements used to control the processing of an SSR from both the submitter (SICC) and receiver (IMM) processing aspects. These data elements are used to control and relate the processing of all SSR events from the initial request until final acceptance or rejection of the SSR. Control elements include:

(a) Activity Code (From) - The activity submitting the SSR transaction.

(b) Activity Code (To) - The activity receiving the SSR transaction for processing.

(c) Provisioning Control Code (PCC) - A code assigned by a provisioning activity to a provisioning project to ensure that data exchanges are related to the same end item in a provisioning package.

(d) Item Serial Number (ISN) - A code assigned to an individual line item in a provisioning package to identify an item of supply (NSN, part number, PSCN).

(e) Date of Request (DOR) - Date on which the request transaction is sent from the SICC to the IMM. It is repeated in transactions for subsequent events relating to the initial request.

(f) Date of Advice (DOA) - The date on which an advice transaction is sent from an IMM to a SICC or from a SICC to an IMM.

(g) Type of Change Code (TCC) - Indicates whether an SSR is an original or change transaction.

(h) Document Identifier Code (DIC) - Identifies the type of SSR transaction (Program, Line Item Request or Advice).

(3) Symbolic Chain of Events. Figure I-87 provides a symbolic chain of events that can be used to show the relationship of transaction events and control elements described above. The symbols represent the eight different types of events that can occur. The control elements represent the links that tie the events in the chain together. Although only one control element is shown per link, all of the control elements are needed to tie the different events together. The chain must start out with a request represented by a Code 0 Event. After the request, events can occur in any one of a number of combinations. Events can occur more than once in a chain and can occur in different orders. In the symbolic chain shown, the sequence of events is as follows:

Event 1 - Code 0 - Request for Supply Support.

Event 2 - Code 3 - Advice transaction providing status on Event 1.

Event 3 - Code 2 - Offer of alternate or substitute on Event 1.

Event 4 - Code 5 - Reply to the Offer in Event 3.

Event 5 - Code 6 - Followup for NSN advice.

Event 6 - Code ? - The event is unidentifiable or missing, possibly due to a problem with a control element.

Event 7 - Code 7 - Response to followup on Event 5.

SSR CHAIN OF EVENTS
(SYMBOLIC)

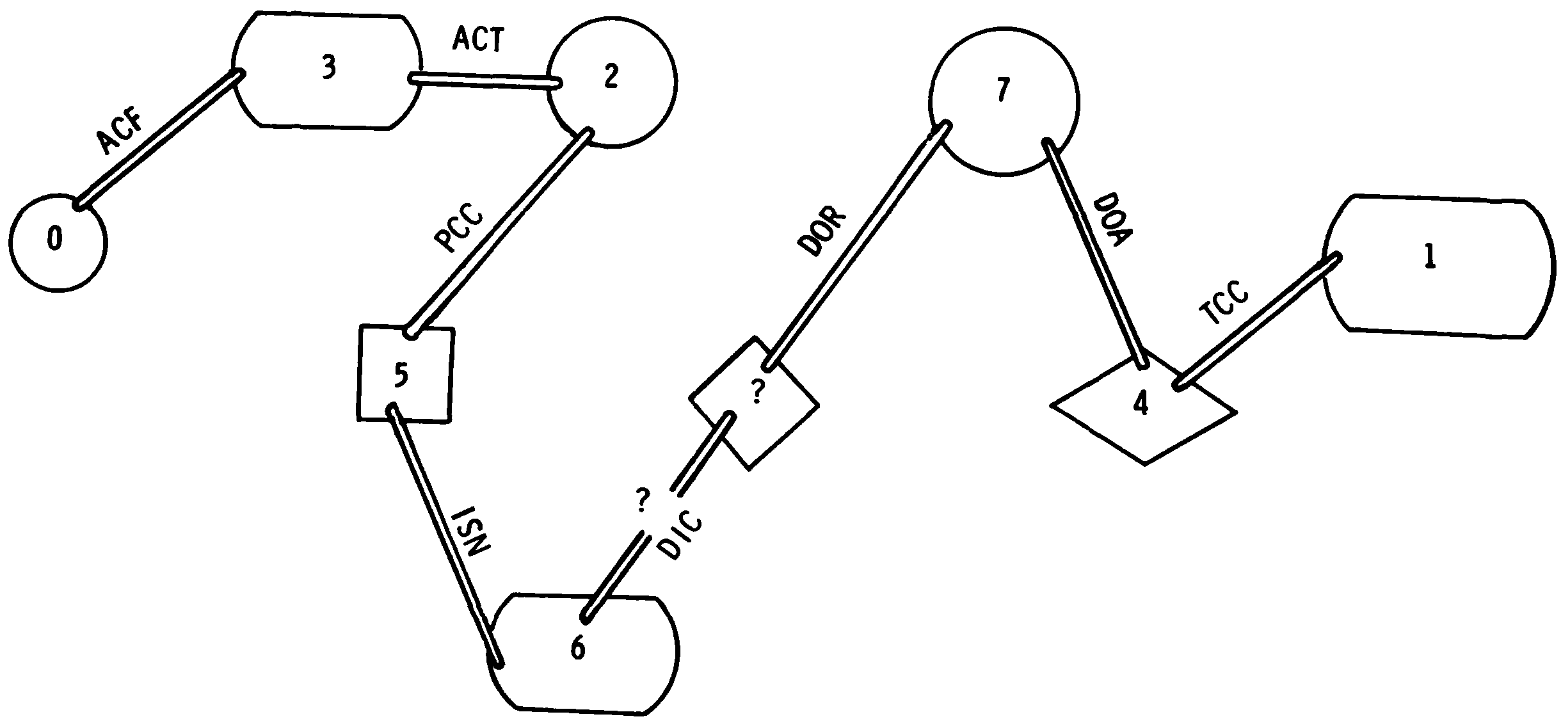


Figure I-87

Event 8 - Code 4 - Rejection of SSR, possibly the unidentified Event 6.

Event 9 - Code 1 - Acceptance of SSR.

(4) Symplified Chain of Events

The symbolic chain of events in Figure I-87 was depicted to show how the eight different type of events relate to each other and that these events could be repetitive, duplicative, missing or occur in varying order in a chain. Figure I-88 provides four different chain types of a more simplified nature. These four types do not represent all the possibilities, but those that would be expected to occur the most frequently or those that one would prefer to occur.

The most desirable chain from the supply support standpoint would be the second chain from the top, the one with the straight line. This chain represents a request followed by an acceptance with or without an NSN. The chain at the top represents a request for a part numbered item followed by an initial acceptance followed by an NSN notification. The third chain represents a request followed by an offer that is accepted by the SICC with an NSN notification following if the offered item is a part numbered item. The bottom chain shows a request that has been rejected, resubmitted followed by an offer by the IMM, acceptance of the offer by the SICC and followed by an NSN advice if the offer was a part numbered item.

A review of a printout of SSR transactions indicated that there were chains with a number of transactions in them occurring in various orders. Computer programs were developed using the chain codes described previously to determine the transaction frequency in chains and the frequency of occurrence of different types of chain patterns. It should be noted that the symbolic chain and simplified chains depicted previously can be classified as chain patterns and examined to determine the frequency of occurrence and the net effect of their occurrence. The statistics shown in this section represent the results of this computer analysis.

b. Transaction/Chain Frequency

The previous section described the makeup of SSR chains and indicated that transactions could occur in different combinations and frequency of occurrence in chains. The following frequency distributions were prepared to determine the number of transactions that were occurring per chain in actual practice. The transition population was chosen, because is was the only population that did not have transactions attributable to the old

SSR CHAIN OF EVENTS
(SIMPLIFIED)

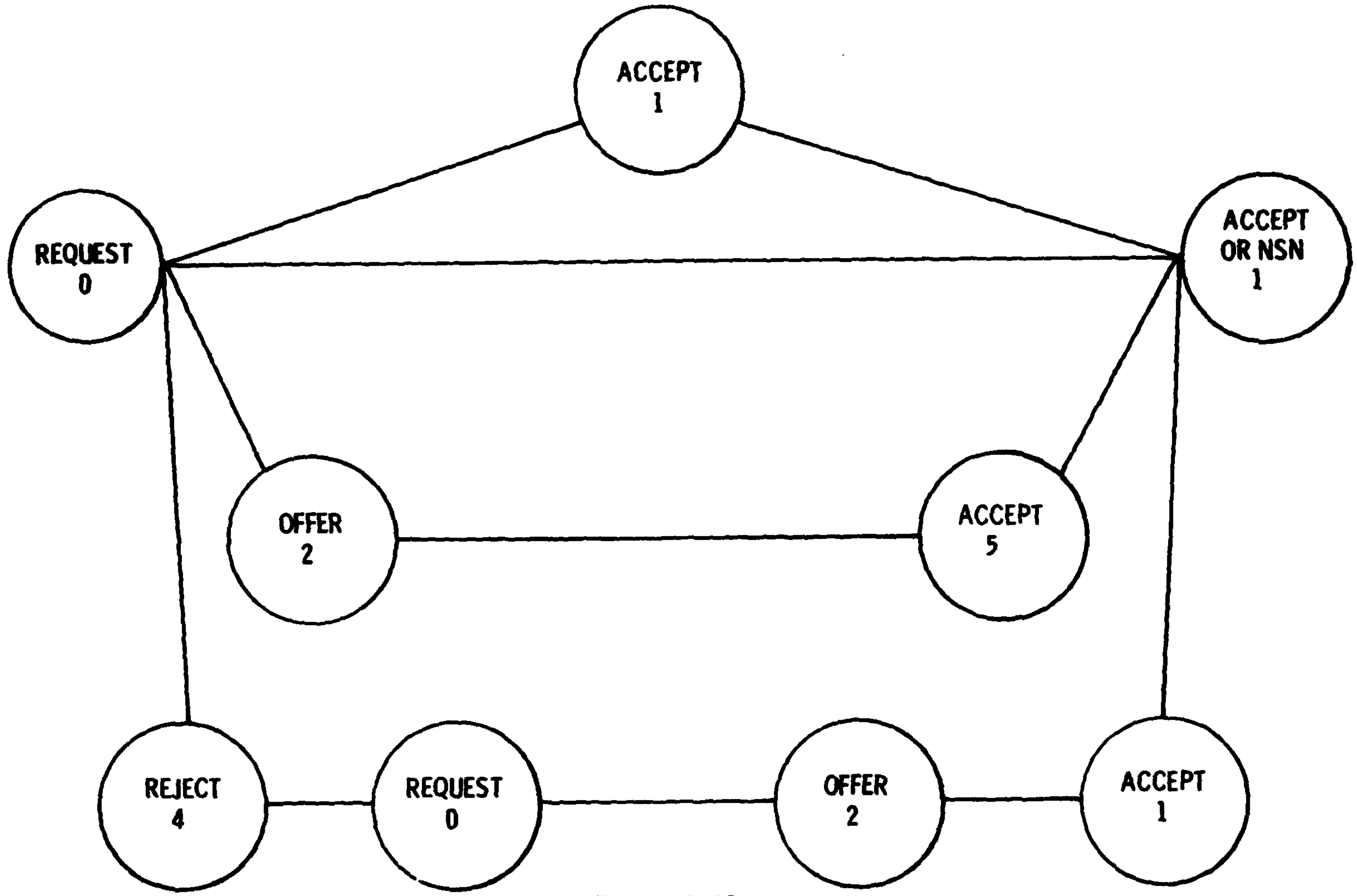


Figure I-88

system and had enough time after a request was generated to permit completion of the chain. Frequency distributions were prepared for transactions beginning with an NSN, part number, or PSCN request. Chains had to begin with an initial provisioning request transaction to be included in the analysis. Chains that began with other than a request transaction were excluded from this analysis. If a chain did not begin with a request it was considered an invalid chain. Nonprovisioning chains are difficult to build because the control elements are duplicative.

(1) CXA Chains

Figure I-89 provides a ranked frequency distribution for chains beginning with an NSN request.

RANK AND FREQUENCY DISTRIBUTION OF
NUMBER OF TRANSACTIONS/CHAIN FOR DIC CXA

Rank	Number of Trans-actions	Gross Number of Chains	Net Number of Chains	% of Gross Total of CXA Chains	Cum % of Gross Total CXA Chains
1	2	41,361	11	75.1	75.1
2	4	5,327	100	9.7	84.8
3	3	3,178	49	5.8	90.6
4	1	2,568	1	4.7	95.3
5	5	1,051	103	1.9	97.2
6	6	869	108	1.6	98.8
7	7	306	68	0.6	99.4
8	8	269	57	0.5	99.9
9	9	79	29	0.1	100.0
10	11	21	15		
11	10	12	11		
12	12	10	8		
13	13	5	5		
14	14	1	1		
15	16	1	1		
16	30	1	1		
Total		55,059	568		

Source: DODSSR Data Collection; Transition Population

Figure I-89

The most desired pattern for a stock numbered chain would be for a request followed by an acceptance; in other words a two transaction chain. There were 75% of the chains with only two transactions. However, this does not indicate that each of the requests were accepted. There are only five possible combinations for acceptance of a request, but there are 11 different

types (net) of these chains indicating there were some offers and rejections in these two transaction chains. Over 20% of all the chains had over two transactions and 4.7% of the chains had over four transactions. Out of 55,059 different NSN request chains there were 568 different types of patterns. This is caused by the number of different types of transactions (request, offer, reject) and the number of different ATCs (70) that can be used in advice transactions. Note that some of the chains had as many as 30 transactions involved. The more transactions that occur in a chain indicate that the same basic request is being handled more than once. The more times that this occurs, the longer it will take to complete the chain and supply support is delayed accordingly. The cost to process a request is also increased when a request requires repetitive handling.

(2) CXB Chains

Part numbered request chains are shown in Figure I-90.

RANK AND FREQUENCY DISTRIBUTION OF NUMBER OF TRANSACTIONS/CHAIN FOR DIC CXB

Rank	Number of Trans-actions	Gross Number of Chains	Net Number of Chains	% of Gross Total of CXB Chains	Cum % of Gross Total CXB Chains
1	2	21,883	12	41.6	41.6
2	3	12,085	87	23.0	64.6
3	4	7,702	220	14.7	79.3
4	5	3,514	292	6.7	86.0
5	1	2,650	1	5.0	91.0
6	6	2,237	273	4.3	95.3
7	7	1,465	202	2.8	98.1
8	8	822	132	1.6	99.7
9	9	106	63	0.2	99.9
10	10	41	21	0.1	100.0
11	11	27	11	0.1	
12	14	4	4		
13	12	3	3		
14	13	2	2		
15	15	1	1		
16	16	1	1		
Total		52,543	1,325		

Source: DOSSR Data Collection; Transition Population

Figure I-90

The number of gross CXB chains approximates the number of CXA chains. But please note that there are over 2.3 times as many different net part numbered chains than stock numbered chains. This indicates that CXB chains are more complex. Only 41.6% of the CXB chains had two transactions as compared to 75.1% of the CXAs, and 15.7% had over four transactions as compared to 4.7% for CXA.

(3) CXC Chains

Chains for PSCN items are shown in Figure I-91.

RANK AND FREQUENCY DISTRIBUTION OF NUMBER OF TRANSACTIONS/CHAIN FOR DIC CXC

Rank	Number of Trans-actions	Gross Number of Chains	Net Number of Chains	% of Gross Total of CXC Chains	Cum % of Gross Total CXC Chains
1	3	28	3	22.8	22.8
2	2	23	4	18.7	41.5
3	4	22	8	17.9	59.4
4	9	16	2	13.0	72.4
5	5	10	4	8.1	80.5
6	6	10	5	8.1	88.6
7	1	8	1	6.5	95.1
8	7	5	5	4.1	99.2
9	8	1	1	0.8	100.0
Total		123	33		

Source: DODSSR Data Collection; Transition Population

Figure I-91

The basic pattern for this chain should be request, initial accept, NSN advice. The vast majority of the chains should be three transactions, and over 34% had over four transactions. These are items on which standardization actions have already been completed and a stock number will be assigned immediately upon request, but these chains are more complex than for part numbered items.

(4) CXA/B/C Chains

Chains for all types of CIMM requests are shown in Figure I-92.

There were 1,926 different types of chains during the entire period. Almost 5% of the chains had only one transaction indicating no advice, although the data collection allowed four months for a reponse for the last transaction in the period. Over 10% of the chains had over four transactions. Chains with six or more transactions accounted for 5.9%; seven and up had 3%; eight and up 1.3%.

RANK AND FREQUENCY DISTRIBUTION OF
NUMBER OF TRANSACTIONS/CHAIN FOR DIC CXA,B,C

Rank	Number of Trans-actions	Gross Number of Chains	Net Number of Chains	% of Gross Total of CXA,B,C Chains	Cum % of Gross Total CXA,B,C Chains
1	2	63,267	27	58.7	58.7
2	3	15,291	139	14.2	72.9
3	4	13,051	328	12.1	85.0
4	1	5,226	3	4.9	89.9
5	5	4,575	399	4.2	94.1
6	6	3,116	386	2.9	97.0
7	7	1,776	275	1.6	98.7
8	8	1,092	190	1.0	99.7
9	9	201	94	0.2	99.9
10	10	53	32		99.9
11	11	48	26		99.9
12	12	13	11		99.9
13	13	7	7		99.9
14	14	5	5		99.9
15	16	2	2		99.9
16	15	1	1		99.9
17	30	1	1		99.9
Total		107,725	1,926		100.0

Source: DODSSR Data Collection; Transition Population

Figure I-92

(5) WXA/WXB Chains

Chains for WIMM items are shown in Figure I-93. About 5.5% of the WIMM chains had over four transactions; and only 1% had six or more. Clearly WIMM chains are less complex than CIMM chains. However, about 22% had only one transaction indicating that there was a large percentage of advice that had not been received even though at least four months had elapsed since the request. Since most of the WIMM requests are for NSNs, the chains should be simpler. Of the 22% single transaction

overall this compared with the 12.5% single transaction for NSNs, and 82.3% single transaction for part numbered WIMM items. It is speculated that a large number of the 82.3% were replied to by letter and that the CX1 advice card was not forwarded.

RANK AND FREQUENCY DISTRIBUTION OF
NUMBER OF TRANSACTIONS/CHAIN FOR DIC WXA,B

Rank	Number of Trans-actions	Gross Number of Chains	Net Number of Chains	% of Gross Total of WXA,B Chains	Cum % of Gross Total WXA,B Chains
1	2	1,215	15	47.3	47.3
2	1	555	2	21.6	68.9
3	3	361	29	14.0	82.9
4	4	299	41	11.6	94.5
5	5	115	34	4.5	99.0
6	6	12	11	0.5	99.5
7	7	8	7	0.3	99.8
8	8	4	4	0.1	99.9
9	10	1	1		99.9
10	13	1	1		100.0
Total		2,571	145		

Source: DODSSR Data Collection; Transition Population

Figure I-93

(6) Multiple Transaction Chains. The transaction/chain frequency distribution indicated that over 20% of all SSR chains have four or more transactions. If everything went as expected, one would expect chains to be completed in a maximum of three transactions. There are three events that contribute the most to causing long chains. These are offers, rejects and followups. Offers are expected and normal events that occur approximately 5% of the time. Rejects and followups occur when the system is not working as it should. Followups or rejects occur in a large number of the chains with four or more transactions; these types of chains were further analyzed to determine their incidence and significance.

(a) Reject Chains. Figure I-94 shows that about 92% of the chains with rejects contained only one reject per chain. There were 7.3% with two rejects per chain and only 0.1% with three or more rejects per chain. This was rather surprising in view of the large number of complaints received during the course of our research that requests were being continually rejected more than once and that all errors should be detected

and rejected in one pass. Either the incidence of multiple errors per reject are lower than originally anticipated or additional errors are being edited by the receiver or the submitter is correcting any additional errors prior to resubmission. An eight percent multiple reject rate per chain is still considered rather high.

REJECTS PER REJECT CHAIN PATTERN

Number Rejects	Net Number Chains	Gross Number Chains	Percent Gross Chains	Cumulative % Gross Chains
1	432	43,098	92.0%	92.0%
2	194	3,424	7.3	99.3
3	64	266	0.6	99.9
4	17	34	0.1	100.0
5	3	5	0.0	100.0
6	2	2	0.0	100.0
7	1	1	0.0	100.0
8	1	1	0.0	100.0
9	1	1	0.0	100.0
10	0	0	0.0	100.0
11	1	1	0.0	100.0
Total	716	43,833		100.0%

Source: DODSSR Data Collection, Transition Population

Figure I-94

(b) Followup Chains. Followups per chain are shown in Figure I-95. Over 70% of chains containing a followup, have only one followup per chain. But, this means that almost 30% of the time when a followup is made there will be two or more followups made. It was previously shown that most of the followups are generated by the Air Force. It is believed that the occurrence of multiple followups over the life cycle of an SSR is caused by a combination of circumstances. The Air Force system of following up based upon the date of generation of the request as opposed to the date of transmission causes followups to be sent too soon resulting in either interim or No Record advice being sent by the IMM. If a No Record condition occurs, the Air Force will resubmit another SSR for the same item. This can result in a series of followups and advice occurring over the life cycle of an SSR. The Air Force system permits SSRs to be forwarded with the same PCC, ISN, with and without a new DOR, even though a type change code is not used to show a change transaction. The same ISN may be user for the same or a different item of supply on the same or different dates for the same PCC.

Followups may be sent out on one request, advice sent out or received on the identical or similar SSR. The advice received may be recorded on the correct SSR in the suspense file or may be applied to a different but similar item. The combination of when a followup is sent out, when it is received, the use of different media for transmitting requests and advice transactions, and the use of different conventions for applying control data to the generation, storage and retrieval of SSRs in suspense files contributes to the incidence of multiple followups over the life cycle of an SSR.

FOLLOWUPS PER FOLLOWUP CHAIN PATTERN

Number Follow-ups	Net Number Chains	Gross Number Chains	Percent Gross Chains	Cumulative % Gross Chains
1	389	14,548	72.7%	72.7%
2	245	3,877	19.4	92.1
3	113	1,572	7.8	99.9
4	14	20	0.1	100.0
5	4	4	0.0	100.0
6	1	1	0.0	100.0
Total	766	20,022		100.0%

Source: DODSSR Data Collection; Transition Population

Figure I-95

(c) Summary. Long SSR chains are caused by a combination of circumstances. Rejects and followups are the principal forces causing long chains. However, these two events do not necessarily occur independently of each other or of other events. Both rejects and followups may occur in the same chain along with other events such as offers. The timing of the generation of transactions coupled with the use of different media for transmitting different types of transactions and the use of different rules for the application of control data in the generation, sequencing, storage, retrieval, and purging of records compounds the problem. Because of the wide variance in the number of different types and subtypes of chain patterns, a more extensive analysis of SSR chains and classification of chain patterns is contained in the network analysis below. A further analysis of the use of different rules and convention as relates to control data is contained in an analysis of the commonality of SSRs at the end of this Chapter.

6. Network Analysis. Throughout this report we have discussed SSR processing in terms of a system containing a series of processing phases, events, steps, and tasks. If the events in

this system are tied together through a communications link and times are added for the completion of events, the system can be thought of as a network. Through an analysis of this network, measurements of time to complete a single event, transmit the results of that event to the next phase or event, or to accomplish an entire chain of action can be recorded. Relation of events to each other and within a chain of events can be made. Also different types of chain patterns or network patterns can be compared to each other. Through an analysis of different events and their time/effect relationships, it is possible to better understand the SSR process and to detect and correct deficiencies in the system. This section provides an analysis of the time to transmit SSR documents, time to complete single events and the time to complete SSR networks of varying types. The time measurements can then be compared against allowed times for the accomplishment of certain events.

a. Performance Evaluation

Performance evaluation is defined by the Work Measurement Standardization Manual (Appendix D, Reference 27) as a critical and objective appraisal of performance data and related information to obtain an accurate picture of overall status of a specific area, ascertain exceptional accomplishments, identify shortfalls and their causative factors, and development meaningful recommendations. During headquarters and field research, the study team attempted to determine if there was an existing or planned system at any of the Components to evaluate the effectiveness of the SSR system in terms of qualitative or quantitative measures that were being used to evaluate the level of performance in terms of some standard, set of criteria, or end objective. The study team could find no management performance goals or objectives in the IMM directives or manuals, Component directives or use in actual practice at operating activities. A management performance goal or objective in this sense is one that is expressed in specific qualitative or quantitative terms to be attained within or over a designated period of time. Performance goals/objectives are viewed as achievement targets or ideal end levels to be obtained. An example of such an objective might be achieving an SSR reject rate of less than 5% or processing 95% of all SSRs within 25 days.

Since we could not find any performance goals/objectives it was logical that we could not find any performance measurement indexes, performance indicators or performance rating scales. In order to measure performance against a goal it is logical to have a performance standard or benchmark to which actual performance is to be compared. We could not find any standard within the strict definition of the term; however, we discovered that the IMM Manual did contain a number of allowed

times for accomplishing certain actions or events in the SSR system. These times are spread throughout the SSR procedures and are not concentrated in any one area with a requirement for measuring and recording the accomplishment of events with respect to allowed times, or to compare these accomplishments against any predetermined goals, objectives or standards. The study team extracted and combined all the times for accomplishing SSR related events into the table shown in Figure I-96.

Start and stop points for measuring times were determined and included in the table. The IMM Manual does not contain allowed times for transmission of SSR request or advice transactions. Inferred times were statistically computed based upon the ten-day differential between the 25 days allowed time for initial advice and the 35-day followup time for initial advice. The ten day differential was allocated evenly to transmission time for the request and transmission time for the advice on the request.

There also was no allowed time for the resubmission of a request transaction when the initial transaction is rejected. The study team had no basis for generating an inferred time for this event. However, an attempt was made to measure the time between the rejection of a request and the resubmission event. The results of this measurement is provided later in this section.

The allowed time for the condition involving submitting a funded requisition occurs when the IMM sends an advice indicating that supply support is accepted, but that the item requested will be supported on a centrally procured, not stocked (AAC J) basis. Since the requisitioning process is outside the scope of the DODSSR Study, the study team had no way of measuring this condition. However, one comment is offered. The procedures specify that the funded requisition is to be submitted 180 days prior to the required date. This appears to be inconsistent with the requirement for stocked items in that the SSR is required to be submitted no more than a leadtime away from the required date. If the leadtime is less than 180 days the requirement for stocked items is less stringent than for not stocked items. Also a certain amount of time is lost to the SICC, since he must wait until receiving the AAC J advice prior to sending the requisition. The SICC has no way of knowing in advance that the IMM is going to support the item through procurement rather than stocking the item. This is even more significant for requests for part numbered items since the SICC must wait for the NSN notification before submitting a requisition for the item.

The study team could not measure the number of SSR changes that occurred within two years after the initial request, since the data collection was only for an 8-month timeframe. The

SSR EVENT COMPLETION TIMEFRAMES

Event	Days Allowed Time	Days In-ferred Time	Start Date	Stop Date
Request Transmission		5	Submission	Receipt
Advice Transmission		5	Submission	Receipt
Initial Advice	25		Request Receipt	Advice Submission
Delayed Advice	15		Pending Advice	Initial Advice
NSN Advice	NSN Date 60		Request/ Reply Receipt	NSN Need Date/ Advice
Reply to Offer	60		Offer Date	Reply Receipt
Initial Followup	35		Request Submission	Advice Receipt
NSN Followup	70		Request/ Reply Submission	Advice Receipt
Response to Followup	15		Followup Receipt	Advice Submission
Request Cancellation	15		Advice Receipt	Cancellation Submission
Request Resubmission	?	?	Advice Request	Request Resubmission
Funded Requisition	180		Requisition Submission	Date Required
SSR Suspense Purge	120		Final Advice	Purge Date
Request Changes	730		Original Request Date	Change Date

Source: SSR Procedures

Figure I-96

120-day purge time frame for SSR suspense records seems to be inconsistent with the 2-year timeframe for submitting changes. If a change occurs six months after the initial request for which a final advice has been received, the initial request will not be in the suspense file, since it will have been purged after four months.

The SSR transaction formats were searched for any date or time indicator that could be used to provide a basis for measuring the actual time for accomplishing events in order to permit a comparison with allowed or inferred times. These indicators are shown in Figure I-97.

The common submitter/receiver data are those that are normally entered in SSR transactions in the card columns shown for the program data card, line items cards, conditions 1, 2, 3 and advice cards. The submitter and receiver data is data that was added to the record as a result of the data collection. The date the submitter sent the SSR to the IMM (receiver) was placed in positions 60-63 of the record sent to the data collection and recorded in the same positions in the combined submitter/receiver record in the DODSSR data base. The date the receiver received the actual SSR was entered into positions 60-63 of the copy of the SSR transaction sent to the data collection, but recorded in positions 96-99 of the Combined Submitter/Receiver record in the DODSSR data base. The AUTODIN dates when the transactions were sent to DODSSR by the submitter and receivers were extracted from the AUTODIN header cards and included in the data base. Also, the study team recorded the date the cards were received by the DODSSR data base management system from the AUTODIN system.

The DODSSR study team developed a series of Performance Evaluation Computer Programs to analyze the performance of the SSR system. The date/time indicators shown in Figure I-97 were used in conjunction with the timeframes shown in Figure I-96 and applied to events occurring in various transaction chain patterns as shown in Figure I-98. This performance evaluation system permitted an analysis of transmission times, single event times and life cycle analysis of an entire SSR transaction chain through the development of SSR networks as shown in Figure I-98.

The large circles represent transactions or events in the SSR system. The type of event is represented by a 3-digit computer code the first digit of which is shown in the circles to signify the major event type as indicated in Figure I-86. The numbers between the circles represent the time to accomplish the event on the right after the event on the left has occurred. By looking at different networks, computing the actual times for an event using the dates in the transactions, and summing up the computed times for all events in a network; the total life cycle

DATES AND TIMES ENTERED ON DODSSR COMBINED RECORD

Required Dates/Times	Character Position				
	PDSSR	LISSR Condition 1	LISSR Condition 2	LISSR Condition 3	LIAC
COMMON SUBMITTER/RECEIVER DATA					
Date Request	49-52	49-52	49-52	49-52	49-52
Date of Advice					53-56
Date Support Will Be Provided					77-80
Y X Date					77-80
Date Repair Parts Required	25-28				
Date Tech Data to be Supplied				69-72	
Date NSNs Required	21-24				
Calendar Year	53				
Calendar Year Quarter	54				
No. of Months in Delivery Cycle	55-56				
Production Leadtime			72-73		
SUBMITTER DATA					
Date Official SSR Sent	60-63	60-63	60-63	60-63	60-63
AUTODIN Date SSR Copy Sent to DODSSR Data Base	81-84	81-84	81-84	81-84	81-84
AUTODIN Date SSR Copy Received by DODSSR Data Base	85-88	85-88	85-88	85-88	85-88
RECEIVER DATA					
Date Official SSR Received	96-99	96-99	96-99	96-99	96-99
AUTODIN Date SSR Copy Sent to DODSSR Data Base	100-103	100-103	100-103	100-103	100-103
AUTODIN Date SSR Copy Received by DODSSR Data Base	104-407	104-107	104-107	104-107	104-107

Source: SSR Procedures

Figure I-97

SSR NETWORK
(SIMPLIFIED)

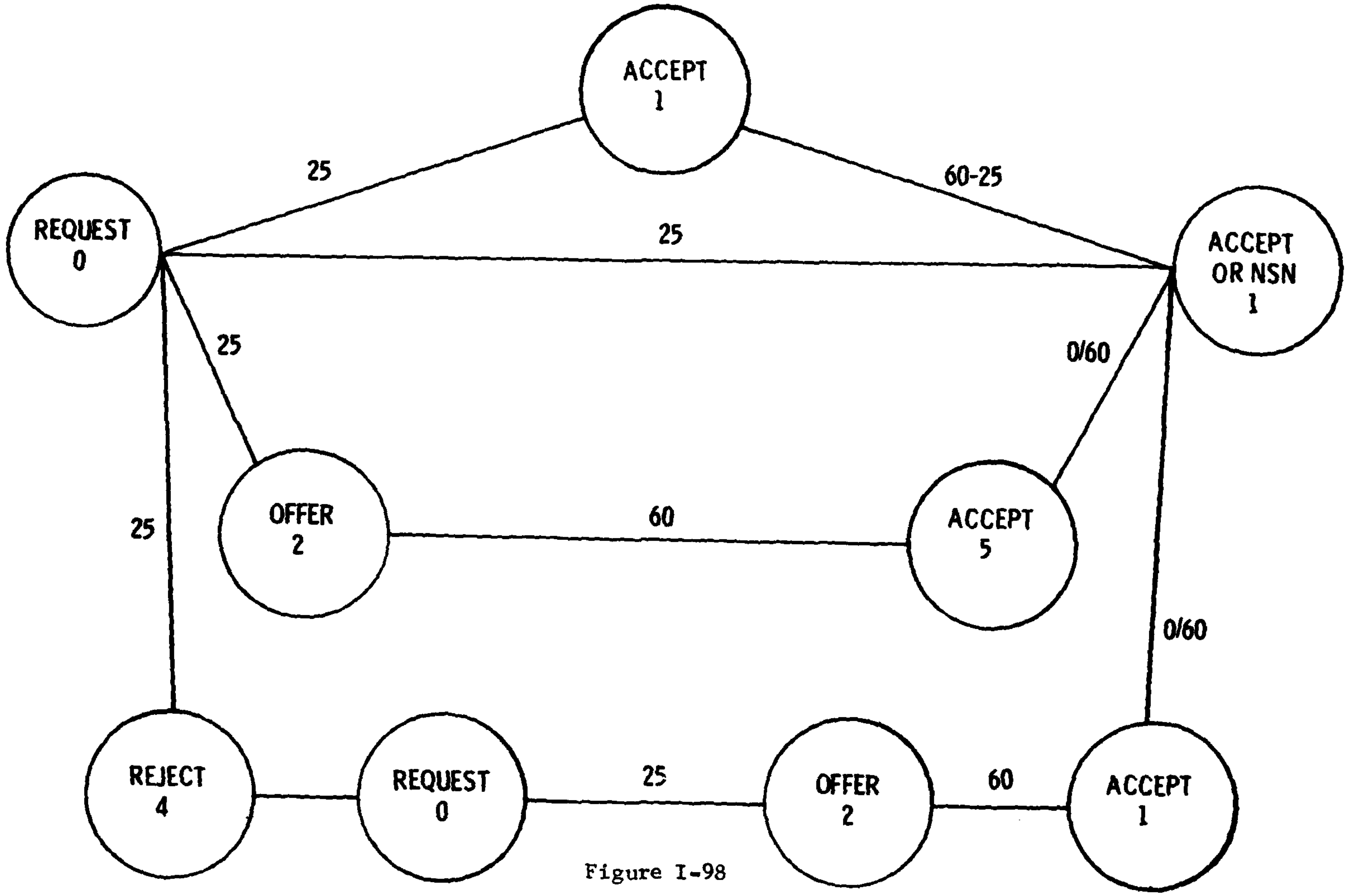


Figure I-98

support time can be determined. The performance of the system can then be determined by comparing the actual times with the allowed times. In addition to total life cycle times, times for individual event pairs can be computed as well as the time to transmit transactions from one point to the other via different types of communications media.

The 25 between the Request (0) event and the Accept (1) represents the 25-day timeframe allowed for initial advice by the IMM after receipt of a request transaction. Sixty days are allowed from the time of the receipt of a part numbered transaction until the forwarding of NSN advice. If 25 days are used to give the initial advice, then 60 less 25 days or 35 days are allowed after the Accept (1) event to accomplish the Accept NSN (1) event. The total allowed time is 60 days. The time for the first accept event is 25 days and the time for the NSN event is 60 minus the time for the initial accept. The actual time can be computed and compared with the allowed times for single events or life cycle chains of events. Transmission times are not shown here since they are not directly provided for in allowed times in the IMM Manual. However, they are very important because extended transmission times can delay the occurrence of an event in the eyes of a transaction submitter and result in a followup which might not have been necessary. Because of the importance of all these times, the study team computed times for transmission, single events and life cycle chains independently and considered all three in the performance evaluation.

b. <u>Submission/Transmission Times</u>

Submission/transmission times are the times it takes from the generation of an SSR transaction by the submitter until it is received by the receiver. There are a number of subevents included in the total time to transfer an SSR from the SICC to the IMM or to transfer advice from the IMM back to the SICC. These times will vary depending upon the degree of automation of the sending and receiving activities, local procedures and the media (mail or AUTODIN) used to convey the transaction from one point to another. The DODSSR Data Collection was used to compute certain subevents related to the total time to transfer an SSR transaction from the generating activity to the receiving activity:

<u>Internal Processing Time</u> - This time was computed by subtracting the Date of Request (DOR) from the minimum of the official and AUTODIN submit dates. This approach was used to attribute the smallest time possible to the submitter based upon the time the transaction was ready to be transmitted to the receiver. The assignment of DORs varies by Component as was described in Volume II. Also the procedures used to batch transactions may vary by

Component or even by activity. This time provides an estimate of the internal time required at the submitting activity from the point when the SSR transaction was generated until the transaction was ready to be submitted. In the case of advice transactions, the Date of Advice (DOA) was used in place of the DOR.

Net Transfer Time - This time was computed by subtracting the minimum of the official and AUTODIN dates submitted from the minimum of the official and AUTODIN dates received. The intent here is to remove the influence of the varying Component procedures used to construct the DOR, and to show the time from the earliest point when the transaction could be submitted until the earliest time it could be received.

AUTODIN Transmit Time - This is the time to physically transport a transaction from one activity to another. These times were computed based upon the submission of the "copy transaction" to the DODSSR Data Base and is shown for comparison purposes. This time is not included in those transactions that are mailed. However, it is representative for those transactions that are forwarded over AUTODIN. It is computed by subtracting the AUTODIN date received from the AUTODIN date submitted.

Gross Transfer Time - This is the time to transfer an SSR transaction from the date of request until received by the receiving activity. It is computed by subtracting the DOR for requests, or the DOA for advice, from the minimum of the official and AUTODIN receipt dates. The intent is to show the influence of the DOR by comparing this time with the internal and net times.

(1) Request Transactions

The SSR Procedures prescribed at the time of the study for the use of mail to transport request transactions from the SICC to the IMM. The DODSSR Study Team established a test to determine the feasibility of using AUTODIN in place of mail. The results of this test are discussed in Chapter II. (Request transactions were forwarded by mail, except for this test period for the test activities.) Historically SSRs have been mailed because of the use of packaging procedures to process SSRs and because of the need to transmit technical data for some items.

Figure I-99 shows the times to transfer request transactions from a SICC to an IMM for CIMM items.

The average net time to transfer an SSR was about 13 days. Fifty percent of the time it took 15 days; however, it could take as much as a month or more to transfer an SSR from one activity to another. The longer timeframes are attributable to the time required at the submitting activity to

match SSRs with drawings and to pack SSRs and related technical data in boxes for mailing to the IMM. Our research indicated that SSRs for NSN and part numbered items were generally packed and mailed together even though NSN items do not require technical data. However, in the Marine Corps NSN, PSCN and part number items are processed, batched and mailed separately.

SICC SSR SUBMISSION/TRANSMISSION TIMES FOR CIMM ITEMS
(Number of Days)

Times	Mean	Standard Deviation	10%-ile	50%-ile	90%-ile
Internal	-9.1	15	-30	0	0
Net	12.7	30	5	15	31
AUTODIN	1.0	7	0	1	3
Gross	3.2	31	-21	11	22

Source: DODSSR Data Collection; Steady State Population

Figure I-99

Note that the gross time is less than the net time. Normally this would appear odd, but this is explainable by looking at the mean time for internal processing. The date of request would normally be expected to be the date when the SSR was generated. This is the case in the Air Force where the SSR is generated by the computer. When the SSR is manually generated, or for the automated systems in the Army and the Navy; the DOR is created by adding a fixed number of days to the date the computer generates the transaction to allow for internal processing time to match up SSRs and drawings and to pack for mailing. When the SSRs are actually submitted prior to the parameter used to construct the DOR, a negative time is generated for this event. This negative time also affects the gross time to transfer an SSR, making it appear that it takes less time than actually occurs.

Followups are supposed to be generated based upon the date submitted. If the DOR is used this can mean that the followup is generated either early or late, depending upon how the DOR is constructed. The date submitted was generated for the DODSSR data collection and is not normally available to the SICC to be used for followup purposes. Therefore, the DOR is generally the starting point for determining when a followup will be sent. The sum of the net and internal times do not precisely equal the gross times though they are approximately equal. This is due to the fact that the number of observations are not the same for each time computation due to the default routine used to utilize the most appropriate date field containing valid data.

The AUTODIN time is shown for comparison purposes. Except for the AUTODIN test described in Chapter II, request transactions are mailed rather than sent over AUTODIN. The AUTODIN time represents an approximation of the net time if the sending and receiving activities were both automated and sending and receiving transactions over AUTODIN.

Figure I-100 provides statistics on WIMM requests. The trend is the same, only the numbers are different. The net times are similar, but it appears that the DOR is slightly less padded for WIMM items than for CIMM items.

SICC SSR SUBMISSION/TRANSMISSION TIMES FOR WIMM ITEMS
(Number of Days)

Times	Mean	Standard Deviation	10%-ile	50%-ile	90%-ile
Internal	-4.1	8	-12	-5	3
Net	14.4	11	6	12	26
AUTODIN	0.7	1	0	1	2
Gross	9.3	13	-4	7	26

Source: DODSSR Data Collection; Steady State Population

Figure I-100

Since the system times were similar for CIMM and WIMM it was decided to break the CIMM times down by Service to see if there was any significant difference. The number of observations were rather small on a Component basis for WIMM items. Figure I-101 provides statistics by Component for CIMM requests.

SICC SSR SUBMISSION/TRANSMISSION TIMES FOR CIMM ITEMS
(Average Number Days)

Component	Internal	Net	AUTODIN	Gross
Army	2.1	19.0	1.4	19.0
Navy	-25.9	13.3	1.7	-8.2
Air Force	0	7.9	0.5	8.0
Marine Corps	-10.1	12.0	1.2	2.2
Total	-1.2	12.7	1.3	11.9

Source: DODSSR Data Collection; Steady State Population

Figure I-101

As you can see, there is a wide variation for all times except for AUTODIN times. Although the Army shows a 2.1 average for internal time, there is a standard deviation of 9.2 indicating that on an activity basis and for individual transactions the internal time can be negative or range as high as 14 days at the 90th percentile. Net times for Army can range from two days at the 10th percentile to 43 days at the 90th percentile. Gross times range from 6 to 43 days, with negative times possible on an activity and individual transaction basis.

The negative internal and gross times for Navy shows that if times were measured using the DOR as a starting point, the SSR would theoretically be received before it was sent. This is due to the internal processing time that is added to the date the SSR is generated to create the DOR. The internal processing time at Navy is consistently less than or equal to zero. This is not a true situation, based upon our systems and field research. But the DORs are representive of what is actually being put into SSRs which are introduced into the system. The more appropriate net time indicates that Navy SSRs take anywhere from two to four weeks transfer time.

The Air Force DOR is equal to the date the SSR was actually generated by the computer. The Air Force indicated via the official submit date and their AUTODIN submission dates that the transactions were submitted on the same day. The copy transaction was sent to DODSSR on that day, but field research indicates to us that the SSR actually was mailed later. The actual internal processing time can not be determined from the data collection. Actually it is taking anywhere from one to four weeks net time to communicate an SSR from an Air Force activity to an IMM.

The times for Marine Corps indicates that construction of a DOR also makes this data element not useful for calculation of transfer time for the Marine Corps. Actual transfer time may take up to three to four weeks.

The leadtimes for communicating request transactions from a SICC to an IMM are taking too long due to a combination of internal processing time on both the sending and receiving ends, and due to the time it takes to move traffic through the packaging and mailing process on a manual basis. The DODSSR Study Team conducted a test to see if this process could be speeded up. The results of that test are contained in Chapter II.

(2) CX1 Advice Transactions

Transfer times for communicating advice from an IMM to a SICC are shown in Figure I-102.

IMM CX1 ADVICE SUBMISSION/TRANSMISSION TIMES
(Number of Days)

Times	Mean	Standard Deviation	10%-ile	50%-ile	90%-ile
Internal	0.3	12	0	1	2
Net	3.7	14	0	1	6
AUTODIN	0.6	3	0	1	2
Gross	3.7	7	0	2	7

Source: DODSSR Data Collection; Steady State Population

Figure I-102

Times shown are the totals for all activities and Components. The internal time from date of advice to submission is low because advice is generally provided from automated suspense files. These statistics are dominated by the Defense Logistics Agency due to the volume of transactions sent by DLA. The internal time for WIMM advice for manual activities can run rather high. The average time for Army activities varied from 1 to 15 days, Navy from an average of 25 to 37 days with the Marines experiencing an average of one week.

The net average total time was 3.7 days with a range of zero to six days. The DLA net and gross times approximate the system total. Means for the Service Components with manual systems ranged from one to three weeks when the advice was mailed. Even where the internal time was low for WIMM, the use of mail severely lengthened the time to receive the advice. The SSR Procedures do permit the use of AUTODIN for advice transactions. Clearly where advice is automated from generation through communications transmission there is a significant savings in submission/transmission time.

(3) Reply to Offer Transactions

Transfer times for communicating a SICC reply to an IMM offer are shown in Figure I-103.

The SSR procedures permit the use of AUTODIN to transport LIACs. At the time the reply transaction is created, the only action remaining for the sender is to submit the transaction to the IMM. All the actions required to review the offer and to make a decision to accept or reject the offer have been completed at the time the reply transaction is created. Transfer events are common between requests and replies once the transactions are created, with the exception that requests are matched up with technical data prior to forwarding and must be mailed while replies may be forwarded over AUTODIN.

SICC CX2 REPLY SUBMISSION/TRANSMISSION TIMES
(Number of Days)

SICC Component	Times	Mean	Standard Deviation	10%-ile	50%-ile	90%-ile
Navy	Internal	3.6	2	2	2	6
	Net	21.6	3	21	21	27
	AUTODIN	0.7	1	0	0	2
	Gross	24.1	5	23	23	30
Air Force	Internal	0.0	0	0	0	0
	Net	2.1	3	0	2	3
	AUTODIN	0.1	1	0	0	1
	Gross	2.1	3	0	2	3
Total	Internal	0.8	4	0	0	2
	Net	3.3	5	0	2	4
	AUTODIN	0.2	1	0	0	1
	Gross	3.4	12	0	2	4

Source: DODSSR Data Collection; Main Population

Figure I-103

The statistics for replies are heavily dominated by the Air Force because of the volume of their traffic. The other Services did not have enough traffic during the steady state period to influence the system totals or to be shown separately so the population for the entire data collection period was used. Once the reply transaction is created by the computer, the Air Force forwards the reply by AUTODIN. DLA is the dominant receiver of reply transactions and provides for direct transfer of the reply from the AUTODIN system to their computer system. Internal processing time as shown in the table is therefore held to a minimum on both the sending and receiving sides.

Even in the main population only the Navy and the Air Force had enough transactions to show separately. Because of their volumes the Air Force statistics approach the system statistics. But, notice the Navy; about three weeks are required to transmit the reply to the IMM. The differences in the net times for the Navy and Air Force are attributed to the time required by Navy to prepare the reply for mailing and the mail time.

It would appear from the statistics shown in this table in comparison with the transfer times for requests that tasks related to the transfer of the transaction should be

automated once the reply decision has been made. Reducing the transfer time would tend to reduce the time to reply to offers and, in turn, reduce the number of support rejects (ATC 08) that occur when a SICC has not replied to an offer within 60 days.

(4) CX3 Followups

Followup transactions are sent by a SICC to an IMM when the SICC has not received advice from the IMM on a previously submitted request. Figure I-104 displays statistical data on followups.

SICC CX3 FOLLOWUP SUBMISSION/TRANSMISSION TIMES
(Number of Days)

SICC Component	Times	Mean	Standard Devia-tion	10%-ile	50%-ile	90%-ile
Navy	Internal	7.8	2	3	9	9
	Net	15.1	3	14	14	14
	AUTODIN	6.0	13	1	2	3
	Gross	16.2	5	6	17	17
Air Force	Internal	0.0	0	0	0	0
	Net	0.9	1	0	1	2
	AUTODIN	0.9	1	0	1	3
	Gross	1.1	2	0	1	2
Total	Internal	2.4	4	0	0	9
	Net	1.6	4	0	1	2
	AUTODIN	0.9	1	0	1	2
	Gross	2.1	6	0	1	3

Source: DODSSR Data Collection; Steady State Population

Figure I-104

Once again the Air Force is the dominating Component for followups as well as replies. However, the Navy also had significant volume for followups. The same type of picture is presented for followups as for replies. The Air Force is automated with followups generated by the computer and routed to AUTODIN for transmission. The two Navy ICPs were in different stages of implementation of their automated system during the time the data was collected. The longer times for Navy are attributed to a combination of manual processing and mailing time during the period of time the automated system had not been implemented. Even when the followup is generated on an automated

basis, if the transactions are then output for manual batching prior to forwarding over AUTODIN, the transfer times will be longer than if a system similar to the Air Force is used where the transactions are forwarded from the computer system generating the followup to the AUTODIN system.

(5) CX4 Responses to Followups

An IMM is required to repsond to a followup within 15 days of the receipt of the followup, Figure I-105 shows the transfer times for responses.

IMM CX4 RESPONSE SUBMISSION/TRANSMISSION TIMES
(Number of Days)

Times	Mean	Standard Deviation	10%-ile	50%-ile	90%-ile
Internal	2.1	4	0	2	4
Net	2.5	4	0	2	4
AUTODIN	0.2	3	0	1	2
Gross	4.2	5	1	3	7

Source: DODSSR Data Collection; Steady State Population

Figure I-105

The times are almost totally dominated by DLA, due to the volume of requests, followups and responses processed by DLA. The volumes for other Components are too small to portray or even to speak of. Responses are generated by DLA from the SSR suspense file on an automated basis. Once the response is created by the computer, the response transaction is routed to the submitting activity via the AUTODIN communications system. Even though the volumes for WIMM IMMs is too small to statistically portray, it appears except for Air Force, that those few that are sent are handled on a manual basis and mailed, thus incurring processing time associated with manual processing and mail time.

c. Individual Event Times. The SSR transaction chains were analyzed to determine the amount of time required to complete the different types of events. In order to measure time for individual events it was necessary to search the chains for pairs of transactions that were related and to measure the time between the occurrence of the transaction pairs. Except for the request transaction that initializes the chain, subsequent events or transactions are caused by or related to a preceding transaction. These transaction pairs were identified and the time to

complete an event was determined by subtracting the date the preceding transaction was completed from the date of completion of the subsequent related transaction. Transactions had to be contiguous in the chain to be considered. In other words if an intervening event occurred between two related transactions, the individual event time was not computed because the related transactions did not occur next to each other in time. Times for transactions with intervening events were considered under the life cycle network analysis in subsection C.6.d. below. Separate computer reports were generated for each of the individual event time types and are discussed in this section.

(1) <u>Date Repair Parts Required (DRPR) Need Time</u>

The DRPR is included in the program data record by the submitter to indicate when supply support is required. The date the program data card was received by the IMM was subtracted from the DRPR to determine the amount of time available to the IMM to provide supply support for the items in an SSR package.

Figure I-106 shows the times by submitting activity and Component. The average amount of time allotted to the IMM to provide supply support was 123 days. There was quite a large variance from the average by activity and by Component. During our advice analysis we noted that the YX advice indicating a new support date was generated using the DRPR and the production leadtime for the individual item being requested. The YX advice varied considerably by submitting activity and Component which is consistent with the variance in DRPRs shown here.

In order to better relate DRPR Need Time with YX advice we generated times by IMM as shown in Figure I-107.

As explained in our discussion of YX advice, DLA is the only Component that consistently considers the DRPR in support determinations. DLA also has the most volume and significantly influences the system statistics. There is a considerable variance in IMM activity and Component times. This is attributable in part to the variances in production leadtimes by commodity. But in order to determine the ability of the IMMs to meet the requested timeframes, it was necessary to determine the reasonableness of the DRPR times.

PROCESSING TIMES FOR EVENT TIME TYPE
DRPR NEED TIME

SICC	Number Obser-vations	Number of Days				
		Mean	Std Devia-tion	10%-ile	50%-ile	90%-ile
ARRCOM	236	103.8	85	27	77	229
CERCOM	1,018	175.3	31	138	183	196
MIRCOM	526	187.0	65	139	173	246
TARCOM	1,064	44.7	92	0	55	128
TSARCOM	1,082	100.7	117	0	74	246
Army	3,926	116.6	102	0	130	219
ASO	3,049	167.6	65	94	191	229
SPCC	7,093	76.0	108	0	120	182
Navy	10,142	103.6	106	0	141	199
OCALC	73	115.7	87	0	179	187
OOALC	88	57.5	62	6	30	182
SAALC	3,903	133.4	73	14	177	190
SMALC	6,949	161.9	57	41	182	198
WRALC	1,389	152.3	61	40	182	191
Air Force	12,402	150.8	65	22	181	193
Marine Corps	1,192	115.0	72	33	123	174
EGICP	222	52.1	104	0	9	158
SICP	134	26.4	72	0	0	90
AICP	137	206.6	192	7	119	246
Coast Guard	493	88.0	148	0	41	246
Other	1,546	66.0	39	30	76	88
Total	29,701	123.3	91	2	168	198

Source: DODSSR Data Collection, Main Population

Figure I-106

PROCESSING TIMES FOR EVENT TIME TYPE DRPR NEED TIME

IMM	Number Obser-vations	Number of Days: Mean	Std Devia-tion	10%-ile	50%-ile	90%-ile
ARRCOM	50	128.5	126	0	117	246
CERCOM	138	143.3	102	27	143	246
MIRCOM	70	130.3	79	39	139	219
TARCOM	67	79.5	84	0	92	179
TSARCOM	39	93.5	85	0	137	186
Army	364	121.7	100	0	134	230
ASO	222	122.7	98	6	152	190
SPCC	139	123.2	76	0	158	188
Navy	361	122.9	90	3	155	188
OCALC	31	122.1	107	5	177	207
OOALC	53	191.0	88	88	193	246
SAALC	169	189.6	145	28	160	246
SMALC	111	152.7	77	52	170	242
WRALC	154	154.4	99	58	152	246
Air Force	518	167.3	114	42	156	246
Marine Corps	103	106.1	85	16	101	187
DCSC	3,818	109.2	91	0	134	190
DESC	11,466	124.8	92	0	172	192
DGSC	5,847	133.6	82	14	173	198
DISC	6,995	117.5	93	1	163	198
DLA	28,126	122.7	90	2	169	198
GSA	229	109.4	80	0	130	200
Total	29,701	123.3	91	2	168	198

Source: DODSSR Data Collection, Main Population

Figure I-107

Statistics were obtained for production and administrative leadtimes for DLA Centers. This data is shown in Figure I-108.

DLA SUPPORT LEADTIMES
(Number of Days)

IMM	Production	Administrative	Procurement
DCSC	212	96	308
DESC	206	112	318
DGSC	178	94	272
DISC	208	100	308

Source: Mid-Year DLA Budget Submission

Figure I-108

A comparison of the average times, variances from the averages in Figure I-106 and I-107 with the average support leadtimes for DLA indicates that it would be difficult to meet the DRPR need times in the majority of cases if the item was not already stocked with materiel on hand. Currently DLA does not consider the DRPR if the item has an NSN already assigned. Assuming that leadtimes are evenly distributed across NSN and part numbered items, it is easy to see why DLA is providing new support dates, YX advice, for a number of requests.

It is concluded that either the SICCs are not sending the SSRs early enough to permit a realistic support leadtime, the production and administrative leadtimes are too high, or a combination of both circumstances prevails.

(2) Initial Accept Time

Initial accept time is computed by matching contiguous request and accept advice transactions where the advice transaction did not also provide an NSN. The time is computed by subtracting the date of receipt of the request from the date of advice. Times were computed by SICC and by IMM. The differences by SICC were not significant so only the times for IMM are displayed in Figure I-109.

The SSR Procedures specify that initial advice is to be provided within 25 days of the receipt of the request. The statistics indicate that this is being accomplished 80% of the time within the 25-day prescribed timeframe, 90% are completed within 33 days, 95% within 47 days, and 99% within 131 days. Ten percent of the transactions are well outside the specified timeframes. The average event completion times for NSN and part numbered items are very similar.

PROCESSING TIMES FOR EVENT TIME TYPE
INITIAL ACCEPT TIME

IMM	Number Obser-vations	Number of Days: Mean	Std Devia-tion	10%-ile	50%-ile	90%-ile
ARRCOM	237	17.3	7	12	19	21
CERCOM	270	0.4	4	0	0	7
MIRCOM	95	23.5	8	17	23	31
TARCOM	56	23.9	10	7	30	30
TSARCOM	34	9.5	14	0	0	0
Army	692	10.8	13	0	12	30
ASO	156	23.8	17	2	28	48
SPCC	63	0.6	11	0	2	4
Navy	219	17.1	18	0	10	48
OCALC	54	15.9	14	0	14	35
OOALC	124	22.6	13	11	21	39
SAALC	245	19.2	16	7	22	34
SMALC	115	33.9	23	12	24	65
WRALC	377	14.3	10	6	11	26
Air Force	915	19.3	16	6	18	36
DCSC	9,437	16.4	12	6	15	26
DESC	51,086	24.4	26	7	20	36
DGSC	6,778	15.8	10	8	15	26
DISC	19,319	20.3	12	10	18	34
DLA	86,620	21.9	22	7	18	33
GSA	121	96.4	65	0	139	139
Total	88,567	21.9	22	7	18	33

Source: DODSSR Data Collection, Main Population

Figure I-109

The average event completion times and 90%-ILE rates for SMALC and GSA are well above the norm. These differences are attributed to activity differences. Since these are initial accept transactions with no intervening transactions between the request and the advice, it would appear that 80% completed within the standard is too low. A goal should be established and a monitoring system implemented to improve processing in this area.

(3) <u>Initial NSN Accept Time</u>. This time category occurs when an NSN is supplied at the same time initial acceptance is provided. As shown in Figure I-110 the average advice is provided within the 25 day timeframe; 62% are provided in 25 days, 90% in 34 days, 95% in 37 days, and 99% in 47 days. The times are slightly better than for initial advice without an NSN. The observations for GSA are too low to be significant.

PROCESSING TIMES FOR EVENT TIME TYPE
INITIAL NSN ACCEPT TIME

IMM	Number Observations	Number of Days					
		Mean	Std Deviation	10%-ile	50%-ile	90%-ile
DCSC	2,629	18.3	6	13	17	25
DESC	7,291	25.0	8	18	24	35
DGSC	1,465	20.7	6	14	21	27
DISC	4,285	26.9	9	18	26	37
DLA	15,670	24.0	8	15	23	34
GSA	6	60.8	28	11	54	90
Total	15,676	24.0	8	15	23	34

Source: DODSSR Data Collection; Main Population

Figure I-110

(4) <u>Final NSN Accept Time</u>

This category occurs when a part numbered item has been requested, and initial accept advice has been provided and the final advice provides the NSN. There are 60 days allowed to complete these actions. No other events occurred between these transactions. Figure I-111 provides statistics on this category.

PROCESSING TIMES FOR EVENT TIME TYPE
FINAL NSN ACCEPT TIME

IMM	Number Obser-vations	Number of Days				
		Mean	Std Devia-tion	10%-ile	50%-ile	90%-ile
ARRCOM	1	76.0	0	76	76	76
CERCOM	6	0.0	0	0	0	0
TARCOM	2	30.5	9	24	24	37
Army	9	15.2	27	0	0	76
DCSC	326	42.4	12	30	41	55
DESC	1,033	52.1	18	34	53	71
DGSC	77	46.4	16	31	47	62
DISC	1,430	60.2	15	45	60	76
DLA	2,866	54.9	17	37	54	73
GSA	25	53.9	35	14	48	129
Total	2,900	54.7	17	37	54	73

Source: DODSSR Data Collection; Main Population

Figure I-111

As is the case with initial acceptance, this category does not vary significantly by submitter. The low number of observations is partly attributable to the fact that no intervening transactions were permitted in the computation since chains were measured as part of a separate analysis. The volumes for GSA and the Service WIMMs are too low to be significant. The average total completion time was 54.7 days; 67% were completed in the 60 days allotted timeframe, 90% in 73 days, 95% in 85 days, and 99% in 100 days. Since no intervening transactions were permitted in this computation, it would appear that more than 67% of this event should have been completed within 60 days.

(5) NSN Need Time. The SSR Procedures provide that the IMM has 60 days to obtain and provide an NSN. If the SICC requires NSNs in less than 60 days after receipt of the request by the IMM, the SICC may enter the date NSNs are required in the program data card. A review of 42,568 program data cards was conducted. There were 3,581 cards or 8.4% containing data in the NSN Need Data field. Of this number 20% were invalid. The valid dates were processed by subtracting the DOR from the NSN Need Date. The average time from this computation was 55 days. Since the IMM is allotted 60 days to provide an NSN, and there is a low usage rate of this data element with a 20% error rate, this data element should be considered for elimination.

(6) NSN Time. The SSR Procedures allow 25 days to provide initial advice for a part numbered item and a total of 60 days to provide an NSN for a part numbered item from the date the request is received. If the first 25 days are used to provide the initial advice, then 60 minus 25 days or 35 days remain to request and obtain an NSN after the initial advice. If the date of the initial advice is subtracted from the date of the NSN advice an approximation of the time to request and obtain an NSN from DLSC is available. This is an approximation of the time to prepare an NSN request, forward the request to DLSC, receive an NSN from DLSC and process the NSN through file maintenance and prepare an NSN advice. This time was extremely consistent by SICC and IMM. It took an average of 22 days to accomplish these actions. Ten percent were completed in nine days, 50% in 17 days, 86% in 35 days, 90% in 40 days, 95% in 48 days, and 99% in 191 days. Since 86% were completed in 35 days, this means that 14% took more than the allowed time for completion. Some of these requests are taking far too long to go through the NSN assignment process.

(7) Offer Time. The offer time is computed by subtracting the date of receipt of the request from the date of the offer. The IMM is allowed 25 days from date of receipt in which to make an offer. Figure I-112 shows the time required by the IMMs to make an offer. The average time to make an offer was 19 days. It took 25 days to complete 44%, 32 days to complete 75%, 39 days for 90%, 45 days for 95%, and 61 days for 99%. These are cases where no initial advice preceded the offer. For some reason, DISC is significantly above the average timeframes. With the 50% at 26 days, over 50% of the offers exceed the 25-day timeframe.

PROCESSING TIMES FOR EVENT TIME TYPE
OFFER TIME

IMM	Number Observations	Number of Days				
		Mean	Std Deviation	10%-ile	50%-ile	90%-ile
OCALC	1	15.0	0	15	15	15
Air Force	1	15.0	0	15	15	15
DCSC	108	25.5	12	14	23	37
DESC	9,121	17.7	36	4	26	38
DGSC	562	23.7	9	17	23	32
DISC	657	31.1	17	16	32	48
DLA	10,448	18.9	34	5	26	39
GSA	22	27.2	29	0	15	80
Total	10,471	19.0	34	5	26	39

Source: DODSSR Data Collection; Main Population

Figure I-112

(8) Reply Time

A SICC is allowed 60 days from the date of an offer from an IMM to reply indicating acceptance or rejection of the offer. As was noted previously, a number of the CX2 replies were manually processed and mailed; therefore, the volumes for this event are quite low. Since the time is computed from the date of advice, those transactions that were mailed would take even longer than shown in Figure I-113. The average reply time by submitter was 49 days. There were 84% complete within the 60-day timeframe, 90% complete within 89 days and 99% complete in 214 days. But it took from 90 to 214 days to complete 10% of the replies. It appears that this process is much too long considering that over 86% of all the offers are for items that already have NSNs and that over 97% of all the offers are accepted.

PROCESSING TIMES FOR EVENT TIME TYPE
REPLY TIME

SICC	Number Obser-vations	Number of Days				
		Mean	Std Devia-tion	10%-ile	50%-ile	90%-ile
ARRCOM	18	49.6	34	7	35	95
CERCOM	1	24.0	0	24	24	24
MIRCOM	15	34.9	17	16	30	65
TARCOM	2	13.0	18	0	0	26
Army	36	40.8	28	11	32	88
ASO	241	74.2	28	57	69	135
Navy	241	74.2	28	57	69	135
SAALC	120	20.2	10	8	19	37
SMALC	2,480	51.2	40	27	40	94
WRALC	123	55.1	53	21	37	174
Air Force	2,723	50.0	40	24	40	94
Marine Corps	180	9.4	22	0	6	15
Other	57	38.8	45	11	13	115
Total	3,237	49.2	40	20	40	89

Source: DODSSR Data Collection; Main Population

Figure I-113

It should be noted that the Air Force has a Central Cataloging and Standardization Office (CASO) at Battle Creek, Michigan, that performs cataloging and item entry control functions that are performed by SICCs in the other Services. During the course of the study, IMMs forwarded offers to CASO for review and approval. After CASO performed the review, the offer package consisting of the Standard/Alternate Referral (DLA Form 546) and any associated technical data was forwarded to the cognizant ALC, to update their files and to prepare a CX2 Reply To Offer to the IMM to accept or reject the offer. During field research, the study team requested a sample of DLA Forms 546 to analyze to determine if this extra "leg" was adding to the time for Air Force ALCs to reply to offers. The analysis of the dates for completion of IMM, CASO and ALC actions indicates that an average of 12 days is attributable to the time from completion of the CASO review until received by the ALC. It is understood that the Air Force has since corrected this condition by providing for CASO to prepare a CX2 reply for direct transmittal to the IMM with the Form 546 package sent to the ALC for file maintenance purposes.

(9) Pending Time. Pending advice is generally provided within the 25 days allowed time. There were so few pending advices used that the volumes are too small to warrant a statistical display.

(10) Followup Time

The SSR Procedures permit SICCs to followup for initial advice after 35 days have elapsed from the submission of the request and 70 days for an NSN advice. Figure I-114 provides data on followups based upon the time from the submission of the request until the time the followup is generated. The Air Force sent out almost 90% of all the followups. The Air Force system provides for followups to be sent out 40 days after the DOR for initial advice and 75 days for NSNs. However, the DOR is the date the SSR was generated in the Air Force with additional time reqired to match SSRs with technical data and to prepare and mail the requests. The other Services allow at least 10 more days prior to followup than the Air Force. About 50 to 60% of the followups were for NSNs and 40 to 50% were for initial advice.

PROCESSING TIMES FOR EVENT TIME TYPE
FOLLOWUP TIME (SUB DATE)

SICC	Number	Number of Days Mean	Std Deviation	10%-ile	50%-ile	90%-ile
ARRCOM	31	76.5	11	70	73	92
CERCOM	2	177.0	17	165	165	189
MIRCOM	3	164.3	59	117	146	230
TARCOM	56	86.2	21	51	92	117
TSARCOM	14	111.0	11	105	105	124
Army	106	90.6	28	64	92	120
ASO	1,129	78.0	18	48	81	90
Navy	1,129	78.0	18	48	81	90
OCALC	49	40.9	4	35	42	49
OOALC	623	63.4	14	40	72	72
SAALC	3,300	59.2	19	35	70	70
SMALC	7,083	50.8	17	35	40	70
WRALC	2,070	60.5	16	35	70	70
Air Force	13,125	55.0	18	35	70	70
Marine Corps	163	60.4	23	9	64	88
Other	61	74.1	33	30	83	83
Total	14,584	57.2	19	35	70	72

Source: DODSSR Data Collection; Main Population

Figure I-114

Figure I-115 was generated to attempt to relate followup times to the time the SSR was received by the IMM. About 40 to 50% of the time the Air Force was following up in 26 days or less when the SSR Procedures specify 35 days from date of submission. Since the Air Force uses the DOR as the starting point instead of the actual date of submission, the IMM often is not receiving its full 25 days to process the request. In some cases, when the mail time is lengthy, the SSR may not have been placed in the suspense files, so the followup generates a "No Record" response. The Air Force then generates another SSR and submits it which may result in the processing of duplicate requirements by the IMM.

PROCESSING TIMES FOR EVENT TIME TYPE
FOLLOWUP TIME (REC DATE)

SICC	Number	Number of Days Mean	Std Deviation	10%-ile	50%-ile	90%-ile
ARRCOM	24	59.2	17	45	63	71
CERCOM	2	125.5	5	122	122	129
MIRCOM	1	201.0	0	201	201	201
TARCOM	54	72.7	22	35	81	103
TSARCOM	13	77.4	37	76	76	107
Army	94	72.4	29	35	76	103
ASO	762	52.2	18	25	57	71
Navy	762	52.2	18	25	57	71
OCALC	49	10.4	10	1	15	15
OOALC	590	16.6	9	12	19	19
SAALC	3,061	33.3	23	5	40	59
SMALC	5,503	24.7	18	2	25	50
WRALC	849	37.9	26	3	46	62
Air Force	10,052	27.9	21	2	26	57
Marine Corps	141	17.5	27	0	7	68
Other	61	62.4	36	5	74	83
Total	11,110	30.0	22	2	27	59

Source: DODSSR Data Collection; Main Population

Figure I-115

(11) Response Time. The IMM is allowed 15 days from the receipt of a followup to provide a response. Almost 99.6% of the followups were sent to DLA. The volumes for the Services as WIMMs was too small to be significant. The statistics for DLA and the overall statistics which are dominated by DLA volumes indicate that the responses are sent out by DLA in an average of one day.

(12) Offer Withdraw Time. The IMM may send a CX1 advice card with an ATC 08 if a reply to an offer has not been received within 60 days of the date of the offer. There is no 10-day transmission time allowance as in the case of initial

advice (25-day expected reply, 35-day followup) and NSN advice (60-day expected reply, 70-day followup). The only statistics in the data base for IMMs was for DLA. The mean time between the Offer and CX1 ATC 08 transaction was 76.6 days which, is well over the 60 days time allowed, indicating that DLA is waiting the proper amount of time before rejecting the SSR when there has been no response to an offer. The 10th percentile showed 67 days, 50th percentile was 68 days and the 90th percentile 82 days.

(13) Reject Time

Reject time is the time it takes to review a request from the time of receipt until the date of the reject advice. Reject time is a function of the type of reject and the IMM. The time to process rejects does not appear to vary significantly by SICC. Figure I-116 provides processing times for rejects by reject category. The total main population was used because the statistics are quite consistent from population to population except for the match/duplicate category. The Steady State figures for this category were mean (10.4), 50%-ile (6), and 90%-ile (25).

PROCESSING TIMES FOR EVENT TIME TYPE
(Rejects by Category)

Reject Category	Number of Days		
	Mean	50%-ile	90%-ile
FSC/Manager	21.8	20	37
NSN/PSCN	19.7	12	31
Catalog/TD	23.5	22	35
Invalid Data	5.1	5	13
Match/Duplicate	14.5	15	21
Procurement	24.2	22	37
Other	28.8	24	46
Total	16.9	12	33

Source: DODSSR Data Collection; Main Population

Figure I-116

The statistics are heavily dominated by DLA due to the volume of SSRs received and processed by DLA. There was quite a variance above and below the means in all categories for Service WIMMs and for GSA as a CIMM. However, the volumes for the Services and GSA by reject category and total rejects is so small in comparison with DLA that it is difficult to determine the statistical significance of their data.

The FSC/Manager and NSN/PSCN categories are the result of DLSC screening, whereby the IMM has picked up information from DLSC files indicating that the FSC is not in a class managed by the IMM, the item has been routed to the wrong IMM or there is a pick up of an NSN for a part numbered item or some other inconsistency between the data in DLSC files and the SSR. At DLA, the SSR is validated after receipt. If the transaction fails validation, an invalid data reject advice is created and routed to AUTODIN for transmission to the SICC. It is logical, therefore, that the invalid data category is the lowest of all.

If the SSR passes validation, a DLSC screening request transaction is created by the provisioning subsystem and passed to the technical subsystem for updating the screening suspense file and creation of a screening transaction to be forwarded to DLSC via AUTODIN using DIDS Priority 2. DIDS Priority 2 requires a 12-hour response time from DLSC. This breaks down into two hours transmission time to DLSC, eight hours combined terminal and computer DLSC processing time and two hours transmission time from DLSC to the IMM. After the reply is received from DLSC, it is routed to the technical subsystem to update the suspense file and then routed to the provisioning subsystem where the reject advice is generated for routing to the SICC via AUTODIN.

The two weeks plus differential between the time for an invalid data reject and the DLSC screening reject categories (FSC/Manager and NSN/PSCN) is much too large. This is attributed to a combination of internal processing time at both the IMM and DLSC to generate the screening request, process the screening request and process the reply. We could not isolate the times attributable to DLSC and that to the IMM, because this type of time tracking could not be obtained from either the IMMs or DLSC. The local procedures and operations for internal scheduling, wait times and processing times should be reviewed at both the IMMs and at DLSC. The mean time for FSC/Manager rejects at DESC and DISC were about a week higher than for the other Centers. DESC was almost two weeks higher than DCSC and one week higher than DGSC and DISC for NSN/PSCN rejects.

Provisioning screening is also a driving factor in the times for Catalog/TD, Procurement and Other, in that transactions are screened prior to the manual review actions performed by the IMMs on these categories. The Other category requires the preparation of "in the clear" exception data that must be manually prepared and thus adds an additional week of processing time. Here again, the times for DESC and DISC are a week to two weeks higher than for the other Centers.

The Match/Duplicate category is 10 to 20 days higher than the other Centers. It appears as if there is some manual processing being introduced at DESC for this category.

(14) Resubmit Time. The SSR Procedures do not currently specify timeframes for the resubmission of an SSR after a request has been rejected. The patterns of 731 reject chains from the data base were analyzed to determine the amount of time it took from the date a reject was submitted by an IMM until the date the SICC resubmitted the request. The results of this analysis indicated that it took an average of 46 days resubmit time with 50% completed within 27 days and 90% resubmitted within 107 days.

d. Life Cycle Analysis

Previous sections in this Chapter discussed the different types of SSR transactions and how the transactions are grouped together to form transaction chains. Symbolic and simplified SSR transactions were described and times were computed for submission of individual transactions and for accomplishment of individual events. Although the SSR procedures specify timeframes for completing various events and activities concern themselves with providing advice in 25 days, NSN in 60 days, following up in 35 days and providing responses in 15 days; these are merely pieces of the total picture of the supply support process. The activity requesting support for an item is concerned not merely with receiving a reject in 25 days or response in 15 days but is really concerned with:

*** "When am I going to get support?"
*** "How long does it take to get support?"
*** "How much effort does it involve to obtain support?"

The real question relates to the final supply support decision which is a sum total of all the individual combinations of events that have transpired from the initial request until the final support decision. All the individual transactions in the life cycle of an SSR could be processed within specified timeframes and support could still be jeopardized if the total life cycle time was too long. This section analyzes life cycle times in an effort to determine just how effective is supply support.

(1) Network or Chain Patterns

A listing was produced showing each of the different (net) chains with the three-digit code indicating each of the events and subevent types in the chain. Counts of the occurrence of each of the net chains (gross number of chains) was

provided for each of the different chains. The chains were reviewed to determine those that were logical or illogical, complete or incomplete, open or closed, correct or incorrect, and for frequency of occurrence. Chains that were similar were grouped into chain patterns for analysis and timing purposes. Generally chains that were logical, complete and with a significant volume were included for analysis. The following types of chains were excluded.

- Chains Not Beginning With A Request. A chain must begin with a request to be meaningful. Chains without a request either have the request missing from the data base or the request occurred in an earlier period.

- Single Transaction Chains were excluded because there is no way of measuring times without at least two transactions to represent the completion of an event. Examples of these are requests that occurred at the end of the data collection period or advice transactions that occurred at the beginning of the period but referred to a request transaction from a previous period.

- Chains With Repeating Transactions were excluded because they were illogical and represent duplicate transactions or control data.

- Open Or Incomplete Chains were generally excluded because a final time could not be computed or represented chains that occurred during the end of the data collection period and there was not enough time to close out the chain.

- Illogical Chains are those that simply do not make sense and should not occur. These chains either have duplicate transactions due to the application of control data or have missing events in the chain. Volumes of these chains were low.

- Chains With Repeating Transactions. These chains would require extensive individual analysis to determine usability. These chains include those that have complete duplicates, those with duplicate control data for different items of supply, those with partial duplicate control data but with different dates of request, or represent changes to an original request without an identifying type of change code.

- Low Volume Chains were excluded even though they may have been logical if they could not fit into one of the group patterns and if their measurement would not have significantly contributed to the analysis.

The chains were grouped into major categories of chain patterns using a "Dominant Event Concept." Under this philosophy, the dominant event is the one that controls the outcome of support decision or significantly influences the chain cycle. The major chain categories with their associated chain patterns that were selected for analysis are shown below. Processing times for the chain patterns or networks were computed using the dates of receipt of the first request transaction and dates of submission of the last advice transactions in the network patterns.

(a) Accept Chain Network Patterns. Included are chains with a request and an accept, but there may be followups because of the delay in the acceptance or loss of the acceptance transactions. Even though a request may have been accepted by an IMM, it is not complete until the acceptance is communicated by the IMM and received by the SICC. The chain patterns are shown by the events listed in order of occurrence in the chain as shown below.

1 Request - Accept

2 Request - Interim Accept - Final Accept

3 Request - Interim Accept - Followup - Response - Final Accept

4 Request - Accept - Followup - Response

5 Request - Accept - Followup - Response - Followup - Response

6 Request - Accept - Followup - Response - Followup - Response - etc.

7 Request - Initial Accept - Followup - Response - Final Accept - Response

(b) Offer Chain Network Patterns. Although there are followups and rejects in these chains, the offer is considered the dominant event. Rejects are those related to offers that have not been accepted within 60 days.

1 Request - Offer - Reply

2 Request - Offer - Support Reject

3 Request - Offer - Reply - Accept

4 Request - Offer - Reject - Reply

5 Request - Offer - Reject - Request - Accept

6 Request - Followup - Response - Offer - Reply

7 Request - Followup - Response - Offer - Reply - Accept

8 Request - Offer - Reject - Request - Reject

9 Request - Offer - Reply - Reject - Request - Accept

(c) Reject Chain Network Patterns. Some of the reject patterns were further broken down into their reject subcategories for report purposes. This distinction is shown in the statistical tables wherever the data for a reject subcategory was significant.

1 Request - Reject

2 Request - Reject - Request - Accept

3 Request - Reject - Request - Initial Accept - Final Accept (Note: Further subdivided by reject subcategories)

4 Request - Reject - Request - Reject - etc. - Request - Accept

5 Request - Reject - Followup - Response - Request - Accept

6 Request - Reject - Followup - Response

7 Request - Reject - Request - Reject (Note: Further subdivided by reject subcategories)

8 Request - Reject - Request - Reject - Request - Reject - etc. (Note: Further subdivided by reject subcategories)

9 Request - Reject - Request - Reject - Followup - Response

10 Request - Reject - Followup - Response - Followup - Response

11 Request - Reject - Followup - Response - Followup - Response - Request - Accept

(d) Followup Chain Network Patterns

These chains are dominated by the followup. The reject if present occurs only after a followup, response, and resubmission of a request.

1 Request - Followup - Response (Note: This category was further subdivided into No Record and other types of responses.)

2 Request - Followup - Response - Followup - Response

3 Request - Followup - Response - Followup - Response - Etc.

4 Request - Followup - Response - Request - Reject

5 Request - Followup - Response - Accept - Request - Accept

6 Request - Followup - Response - Request - Reject - Request - Accept

Life cycle processing times were computed for each of the network patterns and the results are displayed by category as shown in the tables that follow. The chain network patterns shown above were codified for inclusion in the tables for the purpose of brevity. The codes used and their definitions are shown below:

Code	Definition
AA	Advice indicating acceptance of supply support.
AF	Advice providing final support acceptance.
AI	Advice providing initial support acceptance.
AN	Advice accepting support and providing NSN.
AO	Advice providing an offer of substitute to item requested.
AR	Advice providing reject of supply support request.
AW	Advice accepting support and does not provide NSN.
FA	Followup for advice.
RF	Response to followup.
RO	Reply to offer.
RS	Request for supply support.
ETC	Indicates that the repeating codes may iterate a number of times.

(2) Accept Networks. Networks for chain patterns indicating a basic acceptance of an SSR are shown in Figure I-117. The general patterns is one of acceptance, but the original acceptance may have been lost in transmission or received after the allowed timeframe. To the extent that the support advice is missing, lost, delayed, or improperly recorded in control files, the SICC advice processing phase is delayed, with possible affect on the decision to field or not to field a particular piece of equipment. The communication of the support advice is effective on an average within the 25-day allotted timeframe for 67.3% of all the accept chains. As the number of transactions in the chain increases, the longer it takes to communicate the advice decision. In at least 4.2% of the chains there has been more than one followup indicating a breakdown in the communications system. In those cases where there has been only one followup it may be because the followups was sent out too early or because the advice was delayed. It should be noted that anywhere from 75 to 95% of the follow up when there has been acceptance, depending upon the chain pattern, are attributable to the Air Force. This is due to a combination of systems used to generate the followup and to communicate the request and followup as was explained under the single event processing times described previously in this Chapter.

PROCESSING TIMES
ACCEPT CHAIN NETWORK PATTERNS
(Number of Days)

Number Obs.	% Obs.	Chain Network Pattern	Mean	50%-ILE	90%-ILE
49,840	62.2%	RS-AW	22.7	15	34
12,117	15.1	RS-AN	26.6	23	54
8,861	11.1	RS-AI-AF	41.6	40	57
5,941	7.4	RS-AA-FA-RF	50.7	50	108
1,327	1.7	RS-AI-FA-RF-FA	63.3	60	87
954	1.2	RS-AA-FA-RF-FA-RF	110.3	115	148
1,025	1.3	RS-AA-FA-RF-FA-RF-Etc.	169.2	176	186
80,065	100.0%	Accept Pattern Total	31.1		

Source: DODSSR Data Collection; Main Population

Figure I-117

(3) Offer Networks

Figure I-118 provides the results of the computer analysis of offer networks. The nine networks shown represent the principal offer chain patterns that can and did occur

during the data collection period. The rejects shown in the offer chain pattern are restricted to those that relate specifically to offers. These rejects represent the support rejects that occur when an offer is made and the SICC fails to respond within 60 days of the offer.

The first chain represents the ideal situation when a request is submitted, an offer is made, and a reply to the offer is given without any intervening transactions such as follow-ups or rejects. The time allowed complete this chain would be 25 days to make the offer and 60 days to reply to the offer. The mean time from the table is 66.4 days with 90% complete in three days over the allowed time. However, the table indicates that even for this simple offer network over 10% exceeds the allowed time with the longest chain requiring 120 days to complete.

PROCESSING TIMES
OFFER CHAIN NETWORK PATTERNS
(Number of Days)

Number Obs.	% Obs.	Chain Network Pattern	Mean	50%-ILE	90%-ILE
826	20.9%	RS-AO-RO	66.4	67	88
713	18.0	RS-AO-RO-AN	89.8	86	111
167	4.2	RS-FA-RF-AO-RO	77.4	61	138
79	2.0	RS-FA-RF-AO-RO-AN	99.5	91	134
1,444	36.6	RS-AO-AR	93.2	92	103
257	6.5	RS-AO-AR-RO	102.5	100	113
132	3.4	RS-AO-AR-RS-AA	112.9	106	159
151	3.8	RS-AO-AR-RS-AR	140.7	146	192
182	4.6	RS-AO-RO-AR-RS-AA	183.3	202	209
3,951	100.0%	Offer Pattern Total	93.6		

Source: DODSSR Data Collection; Main Population

Figure I-118

The second chain pattern represents the case where an item is requested, an offer is made and accepted and an NSN is provided. In this case the allowed time consists of 25 days for the offer, 60 days for the reply, and 60 days to provide the NSN for a total of 145 days if the maximum allowable time is used. Almost all of the chains are completed within the allowed time of 145 days which consists of the summation of the time for completing individual events. The maximum time for the longest chain was 148 days. But, it should be pointed out that 60 days are allowed from the time of the request to the NSN advice when the original item is supported. This means that there are 25

days for the initial advice and 60 minus 25 days or 35 days in which to supply the NSN. It ·ould appear that 60 days is too long to supply an NSN when the original request has already been processed and the offer accepted.

The third case occurs when there is a followup and response taking place prior to the offer. Actually the followup does not do anything to delay the offer because the response is usually computer processed to provide status that is in the suspense file. So this case really represents those times where the offer has been delayed and the times extended. If the followup had not been generated, the chain would have been classified in with the first chain. In this case there is a total of 85 days to accomplish the chain. The 15-day response time for the response to the followup is included within the 85 days. No extra time is allowed for the response, because the followup is sent out because the initial response was not received in 35 days and no additional time is allowed for delinquency. It should be noted that over 50% of the transactions are completed in 85 days, it takes 138 days to complete 90% of the chains, and the longest chain took 199 days.

The fourth case is similar to the second case except that there is a followup and response introduced. According to the current rules, 145 days are allowed to complete this chain. Although 90% are completed within 134 days, it takes 181 days to complete the longest chain in this pattern.

The remainder of the chains represent those cases where there has been an offer, but there has been a reject because the response to the offer has not been offered within 60 days. When this happens a new request must be submitted. The introduction of the reject transaction withdrawing the offer significantly extends the time for completion of the chain. The time may be extended to over 5 months on an average or up to 200 days or more. The time to generate and communicate the offer and to receive, process and communicate the reply must be reduced to improve the supply support process when there is an offer made of a substitute item.

(4) Followup Chains

Figure I-119 displays patterns where the follow up is the dominating event. The most desirable form of the chain would be a request followed by a followup if processing were delayed, followed by a response to the followup providing interim or final advice, or CX1 final advice. In the case where the response provided interim advice, the CX1 accept would provide final advice. The most expected or desirable chain did not appear among those followup chains occurring the most frequently.

PROCESSING TIMES
FOLLOWUP CHAIN NETWORK PATTERNS
(Number of Days)

Number Obs.	% Obs.	Chain Network Pattern	Mean	50%-ILE	90%-ILE
141	7.2%	RS-FA-RF-AA-RS-AA	35.8	32	52
1,245	64.0	RS-FA-RF	49.0	49	65
42	2.2	RS-FA-RF-RS-AR-RS-AA	98.9	79	160
60	3.1	RS-FA-RF-RS-AR	105.9	98	158
245	12.6	RS-FA-RF-FA-RF	111.1	109	171
212	10.9	RS-FA-RF-FA-RF-etc.	179.3	184	186
1,945	100.0%	Followup Pattern Total	72.9		

Source: DODSSR Data Collection; Main Population

Figure I-119

It should be noted from the start that most of the followup chain patterns are dominated by the Air Force, since the Air Force sends out most of the followups from its automated system. The first case occurs when the followup is sent out and received prior to the request being received and lodged in the suspense file. A No Record response advice is sent out causing the request to be resubmitted. When the first request is received, it was processed and accepted. When the second request was received, it also was processed and accepted in the consideration of duplicate requests for support occurring at different times.

The second case occurs when the followup is received and processed after the request has been received and recorded in the suspense file. The response provides status on the original request and a second request is not generated.

The third case involves both a followup and a reject. There are three requests involved. The forwarding of an early followup results in the resubmission of requests with a reject of the first one and final accept after the third request. Processing is hindered by the lack of communication of the submitter and receiver because a mix of transactions occurs that should not have happened because of timing of generation of followups and resubmission of requests. This merely serves to delay support as is evidence by the 99-day average and over 160 days to support the longest chain.

The fourth case is much like the third, except that the chain has not yet had time to complete itself, yet the average chain has already taken over 105 days with no support

received. The last two cases represent a true breakdown in communications, since there are repeated followups and responses with up to six months transpiring with no final resolution. Either transactions are not being received by the intended receiver or records in the suspense files are not being generated, stored or retrieved properly. The Air Force system permits records to be generated using the same control data on the same or different days. This allows advice to be recorded on the incorrect record and followups to be generated for records on which advice has already been received. The same thing can happen for nonprovisioning SSRs for the other Components, since the same PCC and ISN may be used over and over again.

Based upon the statistics in this table, it appears that there should be procedural and system changes made concerning the structure and use of control data to generate, store and retrieve requests and the timing of when followups will be generated.

(5) Reject Networks

Reject networks are depicted in Figure I-120. The first case is almost identical to the single event time shown under single events earlier in this Chapter. It is shown here for comparison purposes. The cases shown here are where rejects are dominant, and do not include all the cases of rejects, since some rejects occur in accept, followup and offer chains. Rejects were broken down into reject categories for some of the reject chains, but they have been summarized here since the same results occurred as for single events; therefore, the subcategories are not duplicated here.

The same phenomena exists for reject chains as for accept, offer and followup chains, that is, as the chain contains more and more transactions and becomes more complex, the time to complete the supply support cycle lengthens. The chains shown in the figure contain a combination of requests, resubmissions, rejects, followups and accepts. The average time for completion of these chains ranged from 21 to 116 days. It took as long as six months and longer maximum time to complete some of the longer chains. It should be noted however, that the first case is incomplete, since it ends with a reject. Unless it is a final reject such as an item that should be retained for Service management or is in a class outside the scope of the SSR Procedures, the request must be resubmitted and the chain will end up in one of the other cases in Figure I-120. The time to complete a reject chain is directly affected by the number and type of event transactions that make up the chain.

PROCESSING TIMES
REJECT CHAIN NETWORK PATTERNS
(Number of Days)

Number Obs.	% Obs.	Chain Network Patterns	Mean
41,153	77.5%	RS-AR	21.0
1,961	3.7	RS-AR-FA-RF	49.5
4,090	7.7	RS-AR-RS-AA	75.4
259	0.5	RS-AR-RS-FA-RS	77.5
249	0.5	RS-AR-FA-RF-RS-AA	79.5
3,908	7.4	RS-AR-RS-AR	80.8
172	0.3	RS-AR-FA-RF-FA-RF	96.7
296	0.6	RS-AR-RS-AR-Etc.-RS-AA	111.2
42	0.1	RS-AR-FA-RF-FA-RF-RS-AA	114.9
707	1.3	RS-AR-RS-AI-AF	116.4
53,088	100.0%	Reject Pattern Total	33.2

Source: DODSSR Data Collection; Main Population

Figure I-120

(6) Summary

The life cycle analysis analyzed the SSR System in terms of the different types of networks that can occur and attempted to measure the time to complete the supply support process in terms of these networks. Accept, offer, followup and reject network categories were developed and chain patterns were developed and analyzed in terms of the network categories. The networks were developed by using the control data contained in SSRs to chain SSR transactions together in a time sequential series. The intent was to order the transactions as they occurred in time from the point when the request was generated and to relate all subsequent events to the original request in the order in which they were generated and processed.

The control data is oriented to the time in which a transaction was created. However, the time a given transaction was created or submitted does not necessarily relate to the time it was received or processed. Some of the transactions are processed manually after creation and are sent by mail while others are processed mechanically and sent electrically. This causes some transactions created later in time to be received and processed before others that may have been created earlier in time. The advice transactions contain a date of advice that is essentially a transaction date of the date of creation of the advice, but the advice must be related back to a request transaction through the use of the date of request of the original transaction.

The tying of the advice to the original transaction using date of request may create a chain that is different than the way the events actually occurred in time. Although the date of request is needed to chain transactions together for the same item identifying number, a transaction date and/or receipt date may be required to properly place transactions in their logical order for both the purposes of generating an audit trail for operational processing of transactions or management use in measuring performance.

Performance is affected by the pattern of events that occur over the life cycle of an SSR. The network analysis showed the more complex the network in terms of the number, types, combination and timing of events that occur; the longer it takes to complete the supply support cycle. Figure I-121 summarizes the various types of events and estimated times for initiating these events. This table can be used to estimate the life cycle time of the SSR process. Performance can be improved through reducing the number, controlling the order of occurrence, and reducing the processing time for events. The study objectives can be achieved through this approach.

EVENT PROCESSING TIMES
(Number of Days)

Event	Mean	10%-ILE	50%-ILE	90%-ILE
Net Request Transfer	13	5	15	31
Net Advice Transfer	4	0	1	6
Net Reply Transfer	3	0	2	4
Net Followup Transfer	2	0	1	2
Net Response Transfer	3	0	2	4
AUTODIN Transfer	1	0	1	3
Initial Accept	22	7	18	33
Initial NSN Accept	24	15	23	34
Final NSN Accept	55	37	54	73
Offer	19	5	26	39
Reply	49	20	40	89
Followup (Submission Date)	57	35	70	72
Followup (Receipt Date)	30	2	27	59
Response	1	0	1	5
Reject	17	2	12	33
Resubmit Request	46	5	27	107

Source: DODSSR Data Collection

Figure I-121

7. <u>Commonality</u>. The DODSSR Data Base was analyzed to determine the extent of commonality of usage of control data elements and item identifiers. Commonality in this sense refers to the recurrent usage of all or part of the control data elements or the repeated requesting of support by the same or different activity for the same item of supply.

a. <u>Control Data Elements</u>

The provisioning control codes (PCC) were reviewed to determine the extent of usage of the same PCC for different equipments. Listings of the same PCC were prepared showing PCC usage. An analysis of this listing showed that the same PCC may be used for different equipments by the same activity or by different activities. This was true for both provisioning and nonprovisioning requirements although it was more predominant for nonprovisioning. In reviewing the listing generated from program data cards, it was noted that the end item name in the program data card could not be accessed mechanically because of the minor variances in the spelling of the end item name.

Listings were produced for line item supply support requests as well as for program data cards. An analysis of these listings indicated that there was a wide range of repetition in the use of PCC and item serial number (ISN). We found that the same PCC and ISN was being used by the same and different activities for the same NSN or part number on either the same day (DOR) or on different days. Some activities were generating many requests using the same PCC and ISN for different items of supply for nonprovisioning items in particular. Some of these requests were being sent to the same IMM and some of them were being sent to different IMMs on both the same and different dates of request.

The control data in the SSR is intended to be used to identify transactions to facilitate processing at both the SICC and the IMM. The control data is used to record requests in suspense files at both the SICC and the IMM and to control the processing of transactions. The SSR Procedures prescribe that the PCC is required as a positive control feature in data processing and to ensure that data exchanges between activities may be related to the same end item. The provisioning activity is to assign a PCC to a single provisioning project or program and not use the same code to identify a different project within the contract life of the same project to which it is first assigned. The item serial number is used for sequential line item control and for means of communication control. The serial number must be repeated in all line item cards for the same item for the same request and for all subsequent actions pertaining to the original request. The DOR is required to be repeated in any SSR transactions that relate to an original request.

When duplicate control data is used by the same activity on the same day, the transactions are subject to being rejected as duplicates by the IMM if they are received and processed during the same cycle. If the same control data is used for the same item, advice received by a SICC from an IMM may be recorded against the wrong record in the suspense files of the SICC. The SICC may then followup on an item for which support advice has been sent out and receive advice for another item with the same control data and log this advice against the same or a different transaction. The records for both the SICC and IMM may now contain entries on transactions in their suspense files that were intended for other requests.

The previous analysis of reject and followup chains with multiple repeating transactions tend to confirm that the misapplication of control data can lead to the incorrect relationship request and advice transactions containing the same control data but with different identification data.

The SSR Procedures should be revised to more clearly specify the entry and use of all control data to indicate that the same control data PCC and ISN should not be used for different items for the duration of existence of the PCC. The date of request should be established as the initial generation of a request for an item of supply (ISN) for a PCC. All subsequent transactions using the same PCC and ISN from the same activity should be designated as transactions providing changes to the original request or information on the original request or subsequent changes. A transaction date should be assigned to each transaction that is created so that subsequent transactions for the same item of supply for the same activity may be related to each other in the audit trails of both the SICC and the IMM.

The systems of the SICCs should then be designed to be compatible with the revised SSR Procedures. A check for duplicate control data for the same or different items of supply should be included. Duplicates should either be edited by the system or rejected as validation errors for correction prior to submission to the IMM. Requests for the same item of supply for the same PCC with different ISNs being processed during the same cycle should be rolled up into one request with the same control data. The suspense file should be accessed to ensure that new requests being processed do not use the same ISN for different items of supply for the same PCC. If the same item of supply is being requested under the same PCC, the request should be processed as a change or augmentation of the original request.

b. Item Identifiers

Item identifier as used in this context means the stock number, part number or permanent system control number used to identify an item of supply on a supply support request. Reports were generated to determine the incidence of appearance of the same item identifier for different activities. Figure I-122 shows the incidence of commonality of requests for stock numbered items.

CXA COMMONALITY REPORT

Number Activities	Number Items	Total Number Items	% Total Number Items	Total Number Records
1	66,708		90.4	
2	5,668		7.7	
3	959		1.3	
4	277		0.4	
5	105		0.1	
6	43		0.1	
7	15			
8	4			
9	1			
10		73,780		131,867

Source: DODSSR Data Collection; Main Population

Figure I-122

The table indicates that almost 10% of the stock numbers contained in supply support requests were common to two or more submitting activities. There were 7.7% common to two activities and 1.9% were common to three or more activities. The ratio of the total number of records to the total number of items indicates that there is a significant amount of commonality of SSRs for the same item from the same activity. It can not be said with statistical certainty what the exact amount of within activity commonality is because of the incidence of duplication of control data elements due to the resubmission of requests that had been rejected and the regeneration of requests based upon the receipt of a No Record response to a followup for advice.

The table in Figure I-123 provides the incidence of commonality for part numbered requests.

CXB COMMONALITY REPORT

Number Activities	Number Items	Total Number Items	% Total Number Items	Total Number Records
1	91,381		98.3	
2	1,488		1.6	
3	93		0.1	
4	5			
5	4			
6				
7				
8				
9				
10		92,971		117,649

Source: DODSSR Data Collection; Main Population

Figure I-123

There were 1.7% of the items with part numbers that were common to two or more activities. The ratio of the gross and net records for part numbered items also indicates an incidence of commonality of requests within activity as well as among activities. A good estimate of the within activity commonality for part numbered items could not be determined because of the resubmission situation described for stock numbered items above.

The incidence of commonality is discussed because of the continuing complaints received from SICCs that too many items were being classified as centrally procured and not stocked. Currently the decision to stock a part numbered item or to change the stockage decision on an existing item are made based upon the consideration of individual requests. The SICCs feel that these items will experience demand and that it takes too long to convert an item from centrally procured to stocked on the basis of subsequent demand from requisitions. The SICCs recommend that the IMMs accumulate demand contained in the SSRs over time and change the management decision to centrally stocked if the accumulated demand warrants it.

The incidence of duplication of control numbers for the same items and occurrence of SSRs with the same PCC with different item serial numbers for the same item on the same day or in the same cycle indicates that the SICCs are not attempting to roll up demand for the same item across PCCs or even within the same PCC.

Some consideration should be given to the rolling up of demand by the SICC prior to submitting the SSR and by the IMM in rolling up demands for the same item in the same processing cycle and accumulating demands in SSRs over a forecast period. It would appear that the SICC should consider repetitiveness of demand for items within the same PCC for the same activity. The IMM should consider demands for the same item for different PCCs for the same activity and demands for the same item for different activities.

The DODSSR Study did not attempt to quantify the potential for rolling up or accumulating demand because the requirements determination processes for computing the range and depth of item requirements are outside the scope of the study. An extract could be made of SSR suspense files by SICCs and IMMs over a forecast period. The selected SSRs could then be processed through the programs currently used to compute range and depth requirements. The SSRs could be first processed through individually as is the case today. The selected SSRs could then be rolled up and the summed quantities processed through the computation programs to determine the number and percent of items that would be stocked if the demand were accumulated. This process could be accomplished using the existing computation programs in the test mode without affecting existing records for active items and without extensive reprogramming. The results of the test would then form the basis for determining whether accumulation or rollup of SSR demand should be performed by the SICC or the IMM on a continuing basis.

8. Management/Technical Data Element Usage. Management data elements are used to convey or perform decisions relating to source, method and level of support of items in the supply system. Technical data elements are used to convey or perform decisions relating to item identification, item entry control and cataloging of items of supply. Submitters of SSRs include these data elements in the SSR to reflect determinations made by the end item contractor which are included in the provisioning list, and to provide recommendations to the prospective IMM based upon determinations made by the submitter as the provisioning activity. The study team received information during field research visits and from answers to questionnaires indicating that the interpretation, application and usage of certain data elements among submitters and receivers of SSRs was quite variable. Based upon this information a series of reports were generated from the DODSSR Data Base to analyze the relative usage and utility of these data elements and compare this analysis with other study research.

a. PB Source Code Usage

Source codes are part of the Source, Maintenance and Recoverability Codes (SM&R) prescribed by a joint regulation governing the use of these codes (Appendix D, Reference 20). Source codes are assigned to support items to indicate the manner of acquiring items for the maintenance, repair or overhaul of end items. A Source Code PB item is defined as an "Item procured and stocked for insurance purposes because essentiality dictates that a minimum quantity be available in the supply system." The instructions for preparing SSRs in Appendix E of the IMM Manual prescribe the entry of "P" series source codes in SSRs, except for active stock numbered items.

The Defense Logistics Agency (DLA) performs an edit/validation on the source code. The designation of an item as Source Code PB is then given consideration in method and level of support determinations to determine if the item should be stocked as an insurance item.

Figure I-124 shows the frequency of usage of PB Source Codes in part number SSRs. Although the average total usage of 2.1% does not appear to be unreasonable, there is a wide variation in usage among submitters of SSRs. There is no standard establishing the number or percentage of items that should be classified as insurance type items. However, the total absence of usage by some activities as compared with the nine to ten percent rate by ASO and SPCC indicates a lack of understanding of the application and use of this data element.

The SSR Procedures specify the entry of only P Series Source Codes as a mandatory entry for new items. The procedures do not indicate to the submitter the expected result of the entry of this data element, nor do the procedures prescribe usage of this data element by the SSR receiver. This data element is somewhat related to the Acquisition Advice Code (AAC) whose usage is shown on the next figure; however, the PB Source Code is the only current vehicle in the SSR for establishment of an item as an insurance item that is used by an IMM.

The wide variation in the application and usage of Source Code PB indicates that the utility of this code should be reviewed to determine if it should continue to be used, replaced or combined with another data element. If the data element is to continue to be used, more specific procedures and criteria for its entry by submitters, and use by receivers should be specified in the SSR Procedures. This is necessary to ensure uniform procedures and criteria for the selection, recommendation and designation of insurance items to support critical end item equipment applications.

PB SOURCE CODE USAGE
(Frequency of Occurrence)

Activity	No. CXB LISSRs	No. PB Source Codes	Row % PBs	Column % PBs
ARRCOM	675	--	0.0%	0.0%
CERCOM	3,125	28	0.9	1.0
MIRCOM	472	--	0.0	0.0
TARCOM	2,151	41	0.2	1.5
TSARCOM	2,834	289	10.2	10.7
Army	9,257	358	3.9%	13.2%
ASO	22,120	--	0.0%	0.0%
SPCC	22,405	2,050	9.1	75.7
Navy	44,525	2,050	4.6%	75.7%
OCALC	174	--	0.0%	0.0%
OOALC	1,598	--	0.0	0.0
SAALC	15,010	134	0.9	4.9
SMALC	33,459	--	0.0	0.0
WRALC	12,633	153	1.2	5.7
AF	62,874	187	0.5%	10.6%
MC	5,598	--	0.0%	0.0%
CG	.--	--	0.0%	0.0%
Other	7,413	14	0.2%	0.5%
Total	129,667	2,709	2.1%	100.0%

Source: DODSSR Data Collection

Figure I-124

b. Acquisition Advice Code (AAC) Usage

Paragraph 4-2b of the SSR Procedures advises submitters of SSRs to recommend to the CIMM the assignment of AAC J (Centrally Procured-Not Stocked) for those items with low predicted demands that are known to be commercially available and are not required for system support of high priority weapon systems. Paragraph E-4c of Appendix E of the SSR Procedures prescribes the use of AAC J to obtain an NSN assignment and/or catalog registration for CIMM items for maintenance significant items for which demand is unknown or criteria indicates items are not

appropriate for initial stocking in the CIMMs supply system, provided a retail quantity has been procured by the submitter of the SSR, and zeros are entered in the replenishment and retail quantity fields. There is an associated Action Taken Code (ATC) used in advice cards by the CIMM to reject requests that contain an AAC J with quantities greater than zero in the quantity fields.

The procedures in paragraph E-4e of Appendix E containing instructions for preparing a request for an active NSN item specifies AAC as an optional entry. The requestor may recommend a method of management which will result in stockage when submitting requirements for a nonstocked item; otherwise, the field is to be blanked. The SSR Procedures in the Appendix for preparation of a request for an inactive NSN, part number or permanent system control number item specify the entry of AAC J if the quantity fields are zero, otherwise the AAC field is to be blanked.

Based upon the information received during field research and a review of the procedures as outlined above, a frequency distribution of the use of AACs was generated from the DODSSR Data Base. Figure I-125 depicts this distribution. The various AACs were summarized into appropriate categories to show the AAC recommendations of the submitters for new items. Stock numbered requests were not reviewed, since the study team had no way of determining whether an item was already stocked or not; and the procedures specify the entry of an AAC only when the submitter is recommending stockage for an item with a stock number that is not stocked.

The relationship of categories in the Figure to actual AACs is shown below:

(1) No Recommendation - Blank or Numeric 0.

(2) Central Stock - AACD or G, stocked by DoD or GSA.

(3) Central Procure - AAC J with replenishment or retail quantity greater than zero.

(4) NSN Assignment/Registration - AAC J with zeros in both quantity fields.

(5) Other - Reflects codes other than those above that are valid codes but they are inappropriate as a recommendation to a CIMM or the codes are invalid.

AAC USAGE
(Frequency of Occurrence in CXBs/CXCs)

Activity	No Recommendation	Central Stock	Central Procure	NSN Assignment/ Registration	Other	Total
ARRCOM	570	105	0	0	16	691
CERCOM	2,515	0	2	618	2	3,137
MIRCOM	278	0	5	202	0	485
TARCOM	1,998	66	1	82	4	2,151
TSARCOM	1,111	24	16	1,667	18	2,836
Army	6,472	195	24	2,569	40	9,300
ASO	22,125	0	0	5	0	22,130
SPCC	18,331	4,083	0	2	2	22,418
Navy	40,456	4,083	0	7	2	44,548
OCALC	159	0	0	15	0	174
OOALC	1,604	0	1	4	0	1,609
SAALC	10,849	0	6	4,178	3	15,036
SMALC	24,802	0	5	8,904	0	33,711
WRALC	11,100	0	0	1,533	0	12,633
AF	48,514	0	12	14,634	3	63,163
MC	2,515	7	16	3,058	23	5,619
CG	0	0	0	0	0	0
Other	6,152	25	32	1,211	8	7,428
Total	104,109	4,310	84	21,479	76	130,058

Source: *DODSSR Data Collection*

Figure I-125

The distribution shows that 80% of the time no AAC recommendation is made. The twenty percent of the time that an AAC is recommended is broken down as follows:

* Central Stock 16.6%
* Central Procure with demand ... 0.3%
* NSN Assignment/Registration ... 82.8%
* Other 0.3%

However, if the Navy's central stock recommendation is eliminated it shows that over 99% of the time when the AAC J Code is used it is used according to the procedures in Appendix E to the SSR procedures. But it is difficult to believe that 16.5% of all SSRs for new items represent a cataloging request only, without a request for quantitative support. Moreover, the individual service percentages for the Army- 27.6%, Air Force- 23.2% and Marine Corps- 54% of Service totals seem a rather high proportion of SSRs with a zero requirement with retail stock purchased by the requesting activity. The small number of AAC J recommendations with a requirement, 84 for .06% of all new SSRs submitted seems very low when reminded that the Services were requested to recommend central procurement and no stockage for items with low as opposed to no demand.

A review of these statistics in Figure I-125 coupled with the conflicting instructions in the SSR Procedures and information from field research review indicates a lack of understanding of the intent, purpose and usage of AACs by submitters and receivers of SSRs.

Since there was such a low usage of Source Code PB (Insurance Item) by SSR Submitters, we looked to see how many times AAC Z (Insurance/Numeric Stockage Objective Item) was being used. We found that it was being used only 0.007% of the time for all new items being requested.

It is concluded that current procedures and usage of the AAC are conflicting, varied and vague. This code should either be deleted, combined with another code, or definitive procedures and criteria for its entry by submitters and processing by receivers should be provided.

c. Procurement Method Code (PMC)

The procedures in Appendix E of the SSR Procedures specify that the PMC will be entered in SSRs for other than active NSN items. The definition provides for the entry of a one character numeric code as a mandatory SSR data element. However, the format exhibits provide that the entry is optional for WIMM items. The codes are contained in Volume 10, Chapter 4, Table 71

of the DIDS Manual. A zero is to be entered if procurement method screening has not been established. The statistics in Figure I-126 were generated from the DODSSR Data Base because of problems reported with this code during field research.

PMC USAGE
(Frequency of Occurrence by Row Percent)

Activity	No. CXB LISSRs	% No Recommendation	% Competitive	% Direct Procure	% Prime Contractor	% Invalid
ARRCOM	675	94.2%	3.9%	0.3%	0.0%	1.6%
CERCOM	3,125	100.0	0.0	0.0	0.0	0.0
MIRCOM	472	52.3	26.9	4.7	15.7	0.4
TARCOM	2,151	99.1	0.5	0.4	0.0	0.1
TSARCOM	2,834	76.3	4.3	18.2	1.1	0.2
Army	9,257	89.7%	3.1%	5.9%	1.1%	0.0%
ASO	22,120	100.0	0.0%	0.0%	0.0%	0.0%
SPCC	22,405	100.0	0.0	0.0	0.0	0.0
Navy	44,525	100.0	0.0%	0.0%	0.0%	0.0%
OCALC	174	62.6%	37.4%	0.0%	0.0%	0.0%
OOALC	1,598	0.5	99.4	0.1	0.0	0.0
SAALC	15,010	98.4	9.6	0.0	0.0	0.0
SMALC	33,459	0.0	100.0	0.0	0.0	0.0
WRALC	12,633	99.5	0.5	0.0	0.0	0.0
AF	62,874	43.7%	56.3%	0.0%	0.0%	0.0%
MC	5,598	97.2%	0.0%	0.7%	0.0%	2.1%
CG	--	0.0%	0.0%	0.0%	0.0%	0.0%
Other	7,413	100.0	0.0%	0.0%	0.0%	0.0%
Total	129,667	71.8%	27.5%	0.5%	0.1%	0.1%

Source: DODSSR Data Collection

Figure I-126

The procedures do not provide for the entry of the suffix code of the PMC. Activities submitting SSRs reported that the code was useless without the suffix code, that the code was not meaningful any way because the information was not available at the time of provisioning, and that the code should be assigned by the IMM.

The statistics in the figure show that over 70% of the part number SSRs sent to CIMMs were zero or blank in the PMC field indicating that the items had not been screened for procurement method or that a blank was entered and no recommendation was made. Competitive procurement was generally recommended as the procurement method when a recommendation was provided. The information in the PMC overlaps information provided by the Document Availability Code (DAC), Reference Number Category Code (RNCC) and the Reference Number Variation Code (RNVC).

Based upon the relative low entry of meaningful codes, this data element should be considered for deletion with information provided in the DAC, RNCC, RNVC used as a substitute.

d. <u>Document Availability Code (DAC)/Technical Data Justification Code (TDJC)</u>

The DAC is a one digit numeric code that indicates the status of availability of technical data to the Reference Number Action Activity Code (RNAAC). The SSR Procedures specify the conditional entry of this data element in the CXB Card No. 2 for CIMM items when technical data is not provided with the SSR. The code is not required when technical data is provided to the CIMM. The codes are listed in Volume 10, Chapter 4, Table 5, DoD 4100.39M, DIDS Procedures Manual (Appendix D, Reference 25).

The TDJC is a one character alphabetic code to indicate a specific reason for not furnishing technical data for part number SSRs submitted to a CIMM without technical data. The SSR Procedures specify the conditional entry of this data element in CXB Card No. 2 when technical data is not available. Entry is not required if technical data is forwarded with the SSR or if the Date Technical Data to be Supplied is provided.

Figure I-127 shows the availability of technical data as entered in CXB Card No. 2 items generated from the DODSSR Data Base. The usage of both codes is shown on the same figure due to the degree of overlap of the two data elements. There appears to be the same inconsistency in the use of these codes as for the other data elements discussed above.

TECHNICAL DATA AVAILABLITY DISTRIBUTION
(Row Percent)

Activity	No Advice		Available		Not Available		Not Needed		Sub-mitted		Invalid	
	DAC	TDJC	DAC	TDJC	DAC	TDJC	DAC	TDJC	DAC	TDJC	DAC	TDJC
ARRCOM	80.1%	97.2%	19.9%	--	--	--	--	--	--	2.8%	--	--
CERCOM	30.1	80.4	69.8	--	--	19.6%	--	--	--	--	0.1%	--
MIRCOM	91.7	93.1	2.9	--	5.4%	6.9	--	--	--	--	--	--
TARCOM	59.2	71.8	19.1	--	21.7	28.1	--	--	--	--	0.1	--
TSARCOM	2.5	73.7	50.8	--	46.7	26.3	--	--	--	--	--	--
Army	34.9	78.2	45.2	--	19.9	21.6	--	--	--	.2	--	--
ASO	0.1	65.5	65.5	--	34.4	34.5	--	--	--	--	--	--
SPCC	0.8	9.2	8.7	--	90.5	90.8	--	--	--	--	--	--
Navy	0.5	38.2	37.9	--	61.6	61.8	--	--	--	--	--	--
OCALC	--	100.0	--	--	100.0	--	--	--	--	--	--	--
OOALC	--	94.4	--	--	100.0	5.6	--	--	--	--	--	--
SAALC	0.6	78.3	--	--	99.4	21.4	--	--	--	0.3	--	--
SMALC	--	91.1	--	--	100.0	8.3	--	--	--	0.6	--	--
WRALC	0.9	41.5	--	--	99.1	43.9	--	--	--	14.6	--	--
AF	0.3	78.2	--	--	99.7	18.5	--	--	--	3.3	--	
MC	49.4	52.3	3.1	--	47.5	47.5	--	--	--	0.1	--	0.1
CG	--	--	--	--	--	--	--	--	--	--	--	--
Other	86.5	83.7	4.3	--	8.8	15.2	0.4	--	--	1.0	--	0.1
Total	10.1%	64.0%	16.4%	--	73.5%	34.3%	--	--	--	1.7%	--	--

Source: DODSSR Data Collection

Figure I-127

AD-A098 007 DEFENSE LOGISTICS ANALYSIS OFFICE FALLS CHURCH VA F/G 15/5
DOD SUPPLY SUPPORT REQUEST STUDY (DODSSR). VOLUME III. PERFORMA--ETC(U)
DEC 80

UNCLASSIFIED NL

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Although the DAC is not to be entered when technical data is supplied with the SSR the Army entered DACs indicating that technical data was available 45.2% and the Navy 37.9% of the time. TSARCOM entered a DAC indicating that technical data was not available 46.7% of the time while entering TDJCs indicating that technical data was not available 26.3% of the time.

The Navy was quite consistent in the application of DACs and TDJCs. DAC was entered over 99% of the time indicating that technical data was not supplied with the SSR while both DAC and TDJC entries indicate that technical data was available over 37% of the time.

The Air Force like the Navy almost always entered a DAC, with almost 100% entry of DACs indicating technical data was not available. But, TDJC entries indicated that data was not available only 18.5% of the time for total Air Force and 43.9% of the time it was not available for WRALC. The total availability figures for all Components reflect the same degree of variability in the application of these codes.

The DAC is a required data element for entry into DIDS files. It is used in combination with the Reference Number Category Code (RNCC) and the Reference Number Variation Code (RNVC) both of which are contained in the SSR. The TDJC should be considered for elimination and the DAC should be used instead. Procedures for entry of the DAC should then be clarified to clearly spell out the conditions for entry of information relative to the availability of technical data.

e. Weapon System Code (WSC). The WSC is the two digit numeric portion of codes assigned to selected weapon systems under Enclosure 1 of DLAR 4140.38 (Appendix D, Reference 28). The code is entered in the Program Data Card when the SSR submitter desires to advise the IMM, otherwise the field is to be left blank. Figure I-128 was prepared based upon the program data cards received in the DODSSR Data Collection. Valid conditions are blank or a code listed on Enclosure 1 to the DLA regulation.

WEAPON SYSTEM CODE USAGE

	Codes		Records	
Condition	Number	Percent	Number	Percent
Blank	1	1.3%	36,683	91.9%
Valid	12	15.8	1,048	2.6
Invalid	63	82.9	2,204	5.5
Total	76	100.0%	39,935	100.0%

Source: DODSSR Data Collection

Figure I-128

There were a total of 76 different code entries in the Program Data Supply Support Requests (PDSSRs) received; blank or the absence of advice, 12 valid code entries from the regulation and 63 invalid codes that were not listed in the regulation. Blanks appeared 92.6% of the time with valid codes appearing only 2.6% of the time. Considering codes other than blank, that is, when an advice is actually being provided, valid codes were provided 32% of the time, while invalid codes were provided 68% of the time.

The SSR Procedures do not indicate to the submitter the reason for entering the code or to the receiver, what to do with the code when received. A review of current practices indicates that the code is not being used and serves no useful purpose. A DLA letter of 18 May 1977 concerning policy for provisioning of selected weapon systems (Appendix D, Reference 29), refers to the DLA Weapon System Regulation and outlines a procedure for the Military Services to nominate selected weapon systems to be covered by the provisions of the Weapon System Letter. The nominations are to be identified by Provisioning Control Code (PCC) not WSC. After approval by DLA, the SSR submitter is advised to use the PCC in the SSR and the Defense Supply Center is to recognize the PCC in combination with the submitting activity code when processing the SSR.

A special letter of transmittal is supposed to accompany those SSRs using this procedure, to ensure special stockage treatment for items in selected weapons systems. The special stockage consideration provides for stockage of items identified as weapon system items that would not normally qualify for stockage under the stockage criteria published in DoDI 4140.42 (Appendix D, Reference 10).

The Weapon System Letter applies to initial stockage of items in weapon systems that have been nominated and approved in accordance with the procedures contained in the letter. The Weapon System Regulation provides for follow-on replenishment and stockage of specific individual items in weapon systems that have been nominated and approved in accordance with the procedures contained in the regulation. Although the letter seems to consider all items in an approved weapon system for special treatment, the regulation deals with individual items within a weapon system. It is unclear whether the population of approved weapon systems in the regulation is equal to, greater than, or less than, the population of approved weapon systems in the letter.

The WSC as currently entered into the SSR has no real meaning or usage, since the PCC is being used in the SSR to identify items as essential to weapon systems for priority processing and initial stockage considerations. Based upon our review of

the PB Source Code, the AAC, and the WSC, the use of all three of these codes in the SSR is questionable. Since none of these codes appear to have any real utility for designating essentiality, method of support, level of support and priority processing, another method or method(s) should be considered.

9. Nonconsumable Item Materiel Support Requests (NIMSRs)

The statistical data presented for NIMSRs was obtained from the DODSSR Data Base. The data base for NIMSRs was in manual form, since data collected for NIMSRs consisted of copies of manual NIMSRs prepared in accordance with the joint regulation governing the management of nonconsumable items (Appendix D, Reference 21). The information shown in the tables below was obtained by summarizing the data contained in the copies of the forms received.

Each submitter (SICA) of a NIMSR or receiver (PICA) was requested to submit copies of all NIMSR forms generated or received during the data collection period. A sample copy of a NIMSR Form is contained in Figure I-129. The NIMSR is a two part form containing information to be filled in by the requestor and the receiver. The requesting service fills out blocks 1-18 and the PICA completes blocks 19-28. The remarks block may be used by either the PICA or the SICA.

Submitters of NIMSRs were requested to annotate the date NIMSRs were forwarded to the PICA and to indicate the date received on copies of completed NIMSRs received from the PICA. PICAs were requested to annotate the date NIMSRs were received from the SICA and the date of submission of completed forms to the SICA indicating the advice of action taken on the request for support. It was, therefore, possible for the study group to receive four copies of a NIMSR from the same submitting and receiving activities for the same item. These copies were matched together using the activity codes, date of request and the item identifying number (NSN or part number). Because of the beginning and ending cutoff dates, four copies were not received for each request. The data base may contain 1, 2, 3 or 4 copies of a form for the same request for the same item. Net counts were obtained by matching all copies for the same request together.

a. Volumes

Figure I-130 shows the number of different requests submitted or received during the eight month data collection period. The total of 2,890 represents the net count of different requests. Counts are displayed by DIDS Activity Codes to show the relationships between submitters and receivers of NIMSRs.

SAMPLE NIMSR

NONCONSUMABLE ITEM MATERIEL SUPPORT REQUEST			
1. SUBMITTER		2. PREPARING OFFICE	
3. PICA		4. DATE OF REQUEST	
5a. NSN	5b. AF/MMAC 5c. NAVY COG CODE	6. INITIAL QUANTITY	7. DATE REQUIRED
8. LEVEL OF SUPPORT	9. MANAGEMENT LEVEL CODE	10. MOE RULE	
11. SHIP TO		12. APPLICATION	
13. SYSTEMS SUPPORTED	14. INSTALLED QUANTITY	15. TYPE PROGRAM	
16. OPERATIONAL USAGE	17. 12 MONTH DEMANDS	18. UNSERVICEABLE RETURNS	
19. PICA RESPONDING OFFICE		20. LEVEL OF SUPPORT	21. METHOD OF SUPPORT
22. DATE FUNDS REQUIRED	23. ASSET AVAILABILITY DATE	24. UNIT COST	
25. TOTAL DOLLAR VALUE	26. PROCUREMENT LEAD TIME	27. REPLENISHMENT RQMT DUE DATE(S)	
28. UNSERVICABLE RECEIVING ACTIVITY			
29. REMARKS			

Source: Attachment 4 to AFLCR 400-21

Figure I-129

NIMSR SUBMITTER/RECEIVER RELATIONSHIPS
(Number by Activity)

	PICA															
SICA	AJ	AZ	BD	BF	CL	CT	HD	KE	PA	SE	SU	SX	TA	TG	OTHER	TOTAL
AJ										3	1					4
BD								1		17			2	12	1	33
BF							2	4		6			2	1		15
CL							38	3	2	49	6		41	6	4	149
CT								2		2		1		3		8
HD	4		4	8	239			23		90	19	1	55	88	1	532
KE			49	10	17		13		2	210	168	40	38	208	5	760
PA	7	1	95	20	96	5	32			4	61	1	6	2	3	333
SE		3	8	2	8	8	9	53							6	97
SU			2	1	35		14	28							8	88
SX						1		33							1	35
TA			5		524	1	66	24	6						13	639
TG	35	5	29	14	14	7	30	44	1						4	183
OTHER	1	2					1	1		3			4		2	14
TOTAL	47	11	192	55	933	22	205	216	11	384	255	43	148	320	48	2,890

Source: DODSSR Data Collection

Figure I-130

The largest submitter/receiver relationships were among SMALC (TA), SPCC (HD) and CERCOM (CL). SMALC sent 82% of its outgoing traffic to CERCOM, while SPCC sent 44% of its outgoing traffic to CERCOM. CERCOM was the largest single receiver of NIMSRs, receiving 56.2% of its traffic from SMALC and 25.6% of its traffic from SPCC.

The information in Figure I-131 summarizes the leading submitters and receivers of NIMSRs. The Aviation Supply Office (KE) was the leading submitter and the Communications Electronics Readiness Command was the largest receiver. Note that three activities account for the majority of submissions and three activities account for the majority of the receipts.

LARGEST NIMSR ACTIVITY SUBMITTERS/RECEIVERS

Submitter		Receiver	
Activity	%	Activity	%
ASO	26.3	CERCOM	32.3
SMALC	22.1	SAALC	13.3
SPCC	18.4	WRALC	11.1
Total	66.8	Total	56.7

Source: DODSSR Data Collection

Figure I-131

Submitter/Receiver relationships are summarized by service in Figure I-132. The Navy is the largest service submitter while the Army is the largest service receiver. However, the Air Force participates about equally as a submitter and receiver.

NIMSR SERVICE/RECEIVER (PERCENT) RELATIONSHIP

Service	Submitter	Receiver
Army	7.3	44.3
Navy	44.9	14.8
Air Force	36.2	40.5
Marine Corps	11.6	0.4

Source: DODSSR Data Collection

Figure I-132

b. Completion Times

Copies of NIMSRs were collected each time a form was sent between submitters and receivers of NIMSRs with the date of the action being recorded on the NIMSR to permit computation of completion times for the various NIMSR processing time segments. Three types of times were computed as defined below:

(1) Transmission Times

(a) SICA Transmission Time. The date the NIMSR was sent by the SICA was subtracted from the date received by the PICA.

(b) PICA Transmission Time. The date the PICA sent the completed NIMSR was subtracted from the date the PICA received the completion notice.

(2) PICA Processing Time. This time was computed by subtracting the date the PICA received the request from the date the PICA completed processing on the request.

(3) Internal Wait Times

(a) SICA Wait Time. Computed by subtracting the date of request on the NIMSR from the date the SICA sent the NIMSR to the PICA.

(b) PICA Wait Time. The date on the cover letter for the completion was subtracted from the date actually sent.

Figure I-133 shows times required to complete processing of NIMSRs. The data is arrayed by the submitting service. There are three major processing phases shown; SICC Submission, PICA Processing and PICA Submission. Submission times are broken down into wait time and transmission time. The time segments shown represent the major phases in the generation, transmission and processing of a NIMSR. The time for a NIMSR starts from the date of request on the NIMSR form and is completed when completion advice is received by the submitting activity.

The time segments are depicted in their chronological order reading from left to right on the figure. Each of the segments represents an average time for accomplishment of the particular phase or event. The average times were then summed to obtain an average total completion time for a NIMSR. The number of transactions used to compute each time segment average varied based upon the number of copies received in the data collection from the SICAs and PICAs representing the dates they submitted or received NIMSR documents.

NIMSR COMPLETION TIMES
(Average Number of Days by Submitter)

Service	SICA Submission		PICA	PICA Submission		Average Total
	Internal Wait	Transmission	Internal Processing	Internal Wait	Trans-Mission	
Army	30.4	23.5	33.2	2.5	23.0	112.6
Navy	26.3	11.4	42.6	1.3	20.0	101.6
Air Force	16.1	27.6	22.7	0.9	16.6	63.3
MC	5.9	17.4	15.6	0.1	5.9	45.2
Average Total	19.8	20.5	36.3	1.1	9.5	87.2

Source: DODSSR Data Collection

Figure I-133

Note that there is a large variance among the times for the individual segments as well as the average total times by service. The SICA times represent the times required by the service row shown while the PICA times represent the average times for all service PICAs processing requests received from the row service.

Figure I-134 displays the completion times by receivers of NIMSRs. To put it another way Figure I-133 displays the support received by service while Figure I-134 displays the support provided by service. The same variability of time by segment and service is depicted by this chart. The Marine Corps is not shown as a receiver due to the low incidence of cases where the Marine Corps is a PICA for an item.

NIMSR COMPLETION TIMES
(Average Number of Days by Receiver)

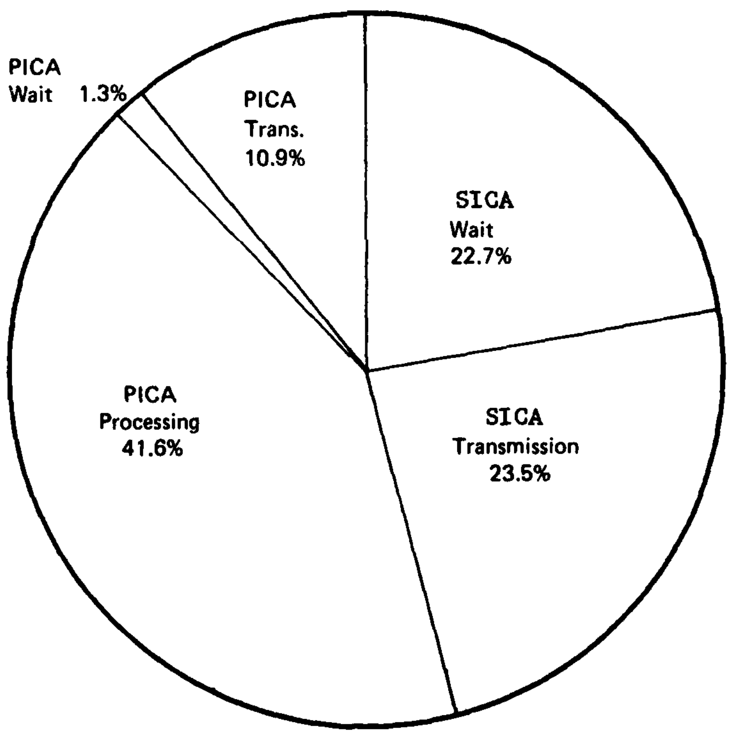
Service	SICA Submission		PICA	PICA Submission		Total
	Internal Wait	Transmission	Internal Processing	Internal Wait	Trans-Mission	
Army	13.7	28.3	14.0	0.4	7.0	63.4
Navy	23.6	11.6	28.2	5.0	22.9	91.3
Air Force	31.4	13.0	42.1	1.5	13.3	101.3
Total	19.8	20.5	36.3	1.1	9.5	87.2

Source: DODSSR Data Collection

Figure I-134

The pie chart in Figure I-135 pictorally shows the proportion of time required for each of the time segments. Although PICA processing time is the largest segment as would be expected, the times for wait and transmission seem inordinately high, particularly for SICA processing. The SICA times are attributed to the general tendency to batch actions into packages during the provisioning process. The use of larger packages of outgoing NIMSRs would probably tend to slow down mail time due to the size of the package and the associated class of mail used.

NIMSR TIME SEGMENTS
(Percent of Total Time)



Source: DODSSR Data Collection

Figure I-135

PICA completions are also batched for the purpose of sending a number of replies under the same cover letter. However, an analysis of the individual transactions received during the data collection indicates that much larger batching occurs on the SICA outgoing request side than occurs on the PICA outgoing advice side. The average total time for completion does seem rather high considering that NIMSRs are generally sent for items already stock numbered based upon the "First on - First Manager" concept used in the Lead ICP approach to managment of nonconsumable items. Under this concept the first ICP bringing an item into the system is designated as the manager of the item.

10. Summary. Potential causes for problems were mentioned and conclusions derived whenever such knowledge was obtained as a part of the data collection, validation and analysis. However, there are other potentially important and even overriding reasons for some of the phenomena observed from the quantitative analysis that can be understood only through a system design analysis and/or operational implementation review. Systems design analysis and operational implementation review are described in Volume II. Validation analysis is described in Chapter III of this Volume. The results of this Chapter must be considered in conjunction with the systems design, implementation and validation analyses through the comparative analysis that is presented in Chapter V of Volume I. The observations and conclusions presented in this Chapter are only preliminary and based upon the quantitative analysis prescribed in this Chapter.

CHAPTER II

AUTODIN/TELEFAX TEST

A. INTRODUCTION

The DODSSR Study was assigned to review and analyze the Supply Support Request (SSR) processing and interrelated systems to identify problems associated with the systems used to generate, transmit, process and control SSRs, and to recommend improvements to increase the effectiveness and efficiency of these systems.

During numerous meetings of the Special Projects Group for Provisioning (SPG), problems were identified that relate to the transmission and control of SSRs. The use of AUTODIN for SSRs was recommended as a potential solution to problems associated with the transmission of SSRs using the U.S. mail. However, there was no universal agreement on the use of AUTODIN for this purpose. In order to evaluate AUTODIN as an alternative, the DODSSR Study Group proposed to the SPG and received approval from the Office of the Assistant Secretary of Defense (OASD) to conduct an AUTODIN test.

Subsequent to the development of the initial plans for the electrical transmission of SSRs over AUTODIN, the study team developed and received approval for a plan for the electrical transmission of technical data using telecommunications facsimile (TELEFAX) equipment. A test plan containing test and evaluation procedures was developed to monitor and coordinate the scheduling, conduct, control, and evaluation of the test. A copy of the detailed test plan is contained in Appendix I.

B. PURPOSE

The test was conducted to determine the feasibility of transmitting and receiving supply support request management and technical data using electrical or electronic media in place of the current method of mailing such data.

C. OBJECTIVES

The objectives of the test plan were tailored to be compatible with and accomplish the objectives of the Study. The specific objectives of the test are outlined below.

1. Decrease transmission times for all types of SSR transactions being transmitted among SICCs and Integrated Materiel Managers (IMMs). This includes management and technical data associated with the following types of transactions.

a. Supply support requests and changes to initial requests.

b. Catalog/technical data.

c. Initial and final advice on the request, including:

(1) Acceptance of supply support and NSN notification.

(2) Status advice.

(3) Offers of alternate or substitute items.

(4) Rejects.

d. Replies to offers.

e. Followups for advice.

f. Responses to followups for advice.

2. Improve control and provide an audit trail from the time an SSR transaction has been prepared by the submitting activity until communicated to and received by the receiving activity and introduced into processing.

3. Decrease SSR loss rate.

4. Improve processing efficiency at submitter/receiver (SICC/IMM) activities.

5. Improve processing effectiveness at submitter/receiver activities.

6. Increase accuracy of submissions.

D. SCOPE

The test included the transmission of all SICC/CIMM consumable transactions transmitted between the participating activities during the test period. This included all conditions and Document Identifier Codes in the SSR Series, both provisioning and nonprovisioning actions manually or mechanically generated from any organizational element at the participating activities. SICC/WIMM transactions were excluded from the test.

1. Program Data Supply Support Request (PDSSR) Cards, Document Identifier Code CWA.

2. Line Item Supply Support Request (LISSR) Cards, Document Identifier Codes, CXA, CXB and CXC.

3. Catalog Cards, Document Identifier Codes CXF, CXF, and CXK.

4. Line Item Advice Cards (LIAC) (Advice, Reply, Followup, Response), CX1, CX2, CX3, and CX4.

5. Technical Data as defined in MIL-STD-1561, Provisioning Procedures, (Appendix D, Reference 23).

E. PARTICIPATING ACTIVITIES

The participating activities were selected based upon a number of considerations. Geographic location was one factor. It was considered desirable to select activities located in different parts of the country to test the effect of distance on transmittal time. The volume and type of supply support request traffic among submitters and receivers and the impact on their operations during the test period was taken into account. Stage and degree of implementation of automated procedures was another element. Potential submitter participants were restricted to those visited by the Study Team and participating in the data collection in order to facilitate analysis of the test.

1. SICCs (Submitters)

Component	AUTODIN	TELEFAX
Army	TSARCOM	---
Navy	SPCC	SPCC
Air Force	SMALC	SMALC

2. CIMM (Receiver)

Component	AUTODIN	TELEFAX
DLA	DGSC	DGSC

F. SCHEDULE

The test was conducted for a period of four months. This was considered the minimum time required to complete or close out the majority of transactions. The intent was to permit experience with all types of transactions and it was not expected that all transactions initiated during the period would be completed. The test was conducted in several parts and phases to permit the evaluation of a number of alternatives for submitting SSR transactions.

1. SSR Submission. All of the test activities submitted their SSR request and advice transactions to each other over AUTODIN during the period 1 September to 31 December 1978.

2. Technical Data Submission. Technical data was submitted by mail by TSARCOM during the entire four months test period while sending their SSR cards over AUTODIN. Technical data was submitted by mail from 1 September to 30 September by SMALC and SPCC. During the period from 1 October to 31 December 1978 SMALC and SPCC submitted technical data using a facsimile transmission system to electrically transmit technical data to DGSC.

G. DESCRIPTION

1. Test Alternatives. A number of alternatives were tested either as a direct part of the AUTODIN/TELEFAX test of different systems and equipment for transmitting SSR data or indirectly through the analysis of the current systems of activities not participating in the test, but participating in the DODSSR Study field research and data collection and analysis effort.

a. Alternative 1. Requests and technical data mailed, advice via AUTODIN.

This alternative represented the system being used by the majority of SICCs and IMMs during the course of the study. The SSR Procedures prescribed the use of mail for requests and permitted CX1, CX2, CX3, and CX4 advice transactions to be sent over AUTODIN. AUTODIN was used by DLA for sending almost all advice to SICCs. Some package rejects were mailed by DLA and exception advice was also provided by mail. DLA accounts for over 97% of the SSR traffic.

b. Alternative 2. Requests, technical data, and advice mailed.

This alternative was used by some of the Components for WIMM items and by TARCOM and GSA for CIMM items.

c. Alternative 3. All SSR transactions sent AUTODIN, technical data mailed.

During the entire test period TSARCOM used this alternative for traffic with DGSC. Test activities, SMALC and SPCC, operated under this alternative during September 1978, for their traffic with DGSC.

d. Alternative 4. All SSR transactions send AUTODIN, technical data by TELEFAX.

Traffic among SMALC, SPCC and DGSC during the period October to December 1978 was transmitted under this alternative. A subset under this alternative included the transmission of technical data using both analog and digital TELEFAX systems by SPCC during December 1978.

2. Systems/Equipment Tested

a. AUTODIN. The existing installed equipment and communications networks at the test activities were used to transmit the SSR card transactions to and from the test activities during the entire test period.

b. TELEFAX

The DODSSR Study Team surveyed the current state of the art that was available to electrically transmit technical data at the time the test was conducted. The controlling factor in the selection of the mode and equipment for transmission was the fact that technical data consisted primarily of hard copy drawings. The activities involved in the test all had technical data libraries with technical data on aperture cards, but the availability of documentation at the time of submission of the SSR transaction cards was usually restricted to hard copy.

A second constraint was the necessity of readily available commercial equipment during the timeframe available to conduct the test. The only commercially available equipment that the Study Group research could find that was capable of scanning a Type D drawing (18"x24") and transmitting it over telephone lines was a telefacsimile system available under an Authorized Federal Supply Schedule, GSA Distribution Code: 00CC-5802 for Fiscal Year 1978. This equipment scans a document, converts the image on the document to a signal that can be transmitted and converts this signal back at some distant point in a recording device that prints out a facsimile of the original document. The equipment can and has been used to transmit textual, graphic and pictorial material including, written text, weather maps, drawings and photographs over AUTOVON or WATS lines.

The following types of equipment were leased and installed at the activities for the periods of time indicated:

(1) Analog Transmit Terminal. Two of the analog transmit terminals were installed, one at SMALC and one at SPCC. These terminals were in operation from October through December 1978.

(2) Digital Transmit Terminal. One digital transmit terminal was installed at SPCC during December 1978. The purpose of installing this terminal was to make a comparison of copy quality and transmission time with that of the analog system.

(3) Analog Receive Terminal. This terminal was installed and in operation at DGSC during October through December 1978.

(4) Digital Receive Terminal. The digital terminal was installed at DGSC during December 1978 to receive digital transmission from SPCC to compare with the analog alternative.

(5) Communications Network. Sending and receiving equipment was coupled to existing AUTOVON and WATS lines. Submitting activities had the option of selecting either AUTOVON or WATS lines at the time of transmission.

3. Test Procedures

a. Submission

(1) Participating activities submitted all SSR EAM card type traffic for consumable items over AUTODIN between Test SICC and Test CIMM activities only. An AUTODIN content indicator code was assigned to identify this traffic. Traffic included all initial, change, resubmission, advice, reply, followup and response traffic for all SSR conditions using any of the SSR document identifier codes for CIMM items. The test did not apply to traffic flowing between test and nontest activities.

(2) Submitters were encouraged to forward traffic to the CIMM immediately after generation and validation. The same general processing procedures and cycles normally used to generate SSRs for submission by the conventional mode were used for generation of SSRs for AUTODIN submission. However, after generation submitters were requested to use one of the following options.

(a) Card submission from ADP/EAM Keypunch Operations to AUTODIN Operations.

(b) Tape submission from ADP Operations to AUTODIN Operations.

(c) Direct wire interface between ADP and AUTODIN Operations.

(3) Submitters were requested to establish controls to ensure that SSRs were routed to AUTODIN Operations by the most expeditious method possible and that backup information was retained in the event of loss or misrouting of transactions.

(4) Copies of SSR transactions were sent to the DODSSR Study Group for inclusion in the DODSSR Data Base to be used to evaluate the test.

(5) Submitters were also requested to forward SSRs requiring technical data or supporting documentation over AUTODIN

immediately after creation of the SSR. Technical data was submitted under separate cover as expeditiously as possible. Control data was marked on the face of the technical documentation to facilitate matching up with the SSR by the recipient. Control data includes:

(a) PCC

(b) ISN

(c) DOR

(d) Activity Code (From)

(6) Technical data for which SSRs were separately forwarded by AUTODIN was mailed to DGSC during the period 1 September to 30 September 1978 by all test submitters and TSARCOM mailed technical data during the entire test. The covering letter contained a reference to the test. Listings of SSRs generated during the test and forwarded by AUTODIN were used to identify and submit associated technical data.

(7) Technical data was forwarded to DGSC via electrical facsimile transmission during the period 1 October to 30 December 1978 by TELEFAX submitting activities.

(a) Control data was marked on the face of the technical data.

(b) Technical data with dimensions of 18"x24" or less was electrically transmitted and a copy retained in the PCC file.

(c) Technical data on aperture cards was printed and the hard copy was used to electrically transmit the data with the hard copy maintained in the PCC file after transmission.

(d) Oversized technical data (wider than 18") was electrically transmitted using a hard copy obtained from the technical library, which was requested to provide a minimum of 24-hour turn around time for aperture card print requests. If the drawing was not in the library, the drawing was forwarded in 18" wide segments.

(e) Submitting activities were requested to contact the receiving activity for guidance when technical data could not be forwarded electrically due to copy quality, size, multiple page commercial books, brochures or drawings.

b. <u>Receipt, Control and Processing</u>

(1) The CIMM test activity was requested to establish procedures and controls to ensure that the SSR transactions received over AUTODIN were introduced into processing as expeditiously and efficiently as possible.

(a) SSRs were routed directly from AUTODIN operations to ADP operations for all transactions.

(b) Transactions for which technical data was not required or could not be provided were processed through the entire SSR processing system. This group of SSRs consisted of:

<u>1</u> Condition 1 SSRs.

<u>2</u> Condition 2 SSRs with PSCNs.

<u>3</u> SSRs with a Technical Data Justification Code (TDJC) providing a reason why technical data cannot be supplied.

<u>4</u> SSR accompanied by a CXF Item Name Card.

<u>5</u> A Condition 3 SSR that does not require technical data when the manufacturer's number in the SSR is a Government specification or standard including type designator which completely identifies the item.

(c) Transactions that required the submittal of technical data which was not available at the time of submittal of SSRs but contained justification codes indicating the data would be provided in the future were to be processed and not held in abeyance. The CIMM was requested to follow up for technical data in accordance with current procedures.

(d) Transactions that required the submittal of technical data which was available at the time of submittal of SSRs were not to be submitted with a CXF Item Name Card, date technical data to be supplied, or technical data justification code. SICCs were required to forward technical data within 24 hours of AUTODIN transmission of SSRs. Those transactions which require technical data but which had not yet been received by the CIMM were processed through the following actions pending the receipt of technical data:

<u>1</u> Edit/Validation.

<u>2</u> Method of Support (MOS) Determination/ Acquisition Advice Code (AAC) assignment.

3 Recording of transactions in SSR Control/ Suspense File.

4 DLSC Screening/Interrogation.

5 Rejection of invalid transactions.

6 Remaining actions were held in abeyance pending receipt of the technical data. The CIMM was required to maintain a manual log to provide a suspense control on all Part Number Select/NSN Request Cards (DIC:YDH) which required match up to technical data. A Provisioning Item History Envelope (PIHE) was prepared as in the nontesting environment for each Item Serial Number (ISN). The YDH card was placed in the PIHE until technical data was received or the SSR returned for nonsubmittal of technical data. In the event technical data was received prior to the receipt of the YDH card, a PIHE was prepared and the technical data maintained until the YDH card was received. The YDH cards requiring technical data were not processed through item entry control without the technical data.

7 The CIMM was requested to review the suspense control log and notify the submitter seven days after receipt of the request over AUTODIN, that if the technical data had not been received, the request would be rejected 14 days after receipt of the request if the technical data still had not been received. A special action taken code (ATC 99) was established to provide this notification. If the technical data was not then received, the request was rejected using ATC 44 because of lack of technical data.

8 Technical data provided by a submitter for an SSR which was rejected was held by the CIMM for resubmittal of the SSR. The SSR being resubmitted was required to contain the same provisioning control data (PCC/ISN/Submitting Activity Code) as the original (rejected) SSR with the exception of the date of request (DOR).

(2) Procedures and controls were required to be established to ensure that supporting technical data was provided by the SICC and received by the CIMM and that the technical data was matched with the appropriate SSR transactions for:

(a) Initial and revised SSRs.

(b) Offers of alternate and substitute items.

H. EVALUATION

1. Plan. Evaluation of the effectiveness and efficiency of the Test was a joint effort among the Test Participating Activities (SICCs/CIMM) and the DODSSR Study Team. Three types of evaluation were performed.

a. Participating activities provided an evaluation of the effects of the test on their operation in terms of the test objectives in accordance with evalution guidelines provided by the Test Plan.

b. The DODDSR Study Team evaluated the accomplishment of the objectives through analyses performed on transactions submitted in the data collection.

c. The DODSSR Study Team reviewed and compared the results of the test based upon an analysis and comparison of participating activity evaluation reports, the data collection/analysis and operational review of the SSR processes at the participating activities.

2. Analysis. The purpose of the test was to determine the feasibility of electrically transmitting SSR transactions and associated technical data. Test objectives were established and criteria developed to measure the accomplishment of the objectives in order to determine the feasibility and relative effectiveness of each of the test alternatives. The evaluations examine the measurements in accordance with the test criteria for each of the alternatives and display the results for each of the test objectives. Determination of feasibility of test alternatives was then made by comparing the relative accomplishment of the test objectives for each alternative and ranking the alternative in order of preference for the test objectives individually and in combination with each other.

a. Transmission Times

(1) SSR Transactions

The submission/transmission time reports that were produced to generate the statistics shown in Volume III for the Steady State Population were also produced for the AUTODIN Test and Non-AUTODIN Test population. These populations were then compared to determine the effect of the AUTODIN Test on submission/transmission time for supply support request transaction cards. The table in Figure II-1 summarizes the results of this analysis.

The table shows the net transfer times for each of the major transaction categories. The AUTODIN Test population includes only those activities that participated in the test and only for transactions that occurred during the test period and were submitted by AUTODIN. The Non-AUTODIN Test population includes requests that were mailed during the test period by activities not participating in the test and requests that were mailed by test activities during the nontest period. During the nontest period it was optional as to whether an activity mailed or submitted CX1, 2, 3, and 4 advice transactions by mail or AUTODIN. The SSR Procedures prescribe the mandatory use of mail for requests and the optional use of AUTODIN for advice transactions.

AUTODIN TEST NET SUBMISSION/TRANSMISSION TIMES
(Number of Days by Transaction Type)

Transaction	Population	Mean	50%-ILE	90%-ILE
Requests	AUTODIN Test	6.6	1	26
	Non-AUTODIN Test	13.1	15	31
Advice	AUTODIN Test	1.9	1	4
	Non-AUTODIN Test	4.0	1	6
Reply	AUTODIN Test	1.8	2	3
	Non-AUTODIN Test	1.0	1	3
Followup	AUTODIN Test	1.1	1	3
	Non-AUTODIN Test	1.6	1	2
Response	AUTODIN Test	2.0	1	5
	Non-AUTODIN Test	2.5	2	4

Source: DODSSR Data Collection

Figure II-1

The statistics in Figure II-1 indicate that there clearly is an advantage in savings of transmission time for requests. The table shows an average savings of one week and a two weeks saving 50% of the time. However, these statistics represent a mix of data processing and batching techniques used to transfer the requests from computer operations to AUTODIN operations for actual transmission of the transactions.

The Air Force created a magnetic tape of the requests which were submitted over AUTODIN on a daily basis. The Air Force net transfer time using this procedure was from one to three days, which approaches the pure AUTODIN transmit time of one to three days reported in Chapter I. The Army and Navy used a combination of data processing, functional processing, scheduling and batching techniques that introduced up to two to three weeks extra internal processing time into their net submission time. The extra internal processing time is confirmed by their AUTODIN transmit times which range from one to three days and the procedures outlined in their evaluation reports. If the Air Force technique is used an average savings of two to three weeks can be obtained by using AUTODIN in place of mail. However, if the requests are not routed directly to AUTODIN operations for transmission immediately after creation, there may be little or no savings in time realized.

The CX1 advice transmission times are dominated by DLA due to the volume of DLA business. The net processing times for advice approach the AUTODIN transmit time particularly during the AUTODIN Test period. The slightly higher figures for the Non-AUTODIN Test period are due to the use of manual and mail procedures for WIMM advice transactions. If the advice is generated on a daily basis and immediately transferred from data processing operations to AUTODIN operations it should take an average of one day during the week and three days if a weekend is involved.

Reply times approach the one to three day AUTODIN transmit times for both test periods. The offer/reply sample size for the AUTODIN Test population represented only 71 Air Force transactions. The Air Force volumes dominated the Non-AUTODIN Test statistics and kept the times low. The Navy averaged about two weeks submission time for replies.

Followups are also generally sent out over AUTODIN, by most SICCs, so they are representative of AUTODIN transmit time. To the extent that they are created, followups are usually computer generated, so there is less manual processing and batching involved.

Responses are predominantly sent out by AUTODIN and are dominated by DLA volumes.

The evaluation reports by the activities participating in the AUTODIN Tests confirmed that the use of AUTODIN resulted in a net decrease in transmission time. Both submitters and the receiver reported that they had experienced an improvement in transmission time for SSR transactions during the AUTODIN Test.

(2) Technical Data

Technical data when mailed will experience the transmission time reported in Figure II-1 for the Non-AUTODIN Test. The requirement to submit technical data for new items is the principal factor requiring the use of mail for SSR transactions. The AUTODIN/TELEFAX Test included two alternatives for transmission of technical data. The transmission of SSRs by AUTODIN and mailing of technical data was performed to determine if the transmission of SSR transactions and technical data could be separated and if it would result in improvements in the transmission, processing and control of SSRs. Although the transmission time for the SSR transactions sent by AUTODIN is reduced, the mailing of technical data separately from the SSR transactions after creation of the SSR transaction does not decrease the transmission time for technical data. The advantage of separately mailing the technical data, if any, must be attributed to a reduction in net processing time, improvement in processing efficiency or effectiveness, or an improvement in control.

The TELEFAX Test was performed to determine if the transmission time for technical data could be reduced through electronic/electrical transmission. Two Analog Transmit Terminals, one Digital Transmit Terminal, one Analog Receive Terminal and one Digital Receive Terminal were installed at participating activities to transmit technical data from the Test SICCs to the Test CIMM. The equipment was coupled to standard AUTOVON and WATS voice grade lines. The sender had the option of selecting either of the two lines at the time of transmission. Generally, AUTOVON was used unless it was busy or interruptions were being experienced.

The transmission system consisted of the input source document, the operator of the sending unit, the communications networks, the receiving unit, the operator of the receiving unit and the output facsimile document. The source documents were hard copy technical data consisting of standard drawings types A to F, catalog pages, technical data sheets, and other types of technical data. The technical data is used by the IMM to perform item entry control and stock numbering actions. After completion of technical actions, some of the technical data (usually drawings) are converted to aperture cards for entry into the IMMs technical data library.

Figure II-2 provides an estimate of the time to transmit drawings by type and size using analog equipment. The times shown are the approximate times using voice grade lines without interruptions. The time to transmit a document, assuming no interruptions, is a function of the size of the document, the density of the printed or graphic material on the document, and the scan and transmit speed selected. The data shown in the table provides approximations assuming a scanning rate of 120 revolutions per minute (RPM). Reading from left to right, as the size of the document increases, the transmit time increases. Reading from top to bottom, as the density (Lines per Inch) of the document increases, the transmit time is also increased.

The evaluation reports submitted by the test activities tend to support the estimated transmission times for the analog and digital systems. Average times of 6.85 minutes were reported for the analog system and 1.9 minutes for the digital system when there were no interruptions of equipment downtime. The digital system can transmit at a much faster rate than the analog system. Digital equipment is estimated to be about four times faster than analog equipment.

ANALOG TELEFAX TRANSMISSION TIME

(Approximate Time in Minutes to Transmit Over 3 KHZ Voice Line) TYPE DRAWINGS							
RPM	LPI	A	B	C	D	E	F
120	96	6.8	8.8	17.6	17.6	35.2	32.0
120	120	8.5	11.0	22.0	22.0	44.0	40.0
120	166	11.8	15.3	30.6	30.6	61.2	56.0

RPM = Revolutions per Minute
LPI = Lines per Inch

Source: Adapted from "The Facsimile Series," reprinted from Communications Journal.

Figure II-2

The activity evaluation reports and logs indicate that the normal transmit times for the TELEFAX equipment were sometimes extended due to the inability to obtain an AUTOVON or WATS line because they were busy. Sometimes there were interruptions on AUTODIN lines that necessitated a retransmission of a document that had been partially transmitted. Extremely long drawings that exceeded the 18" width limitation had to be reduced or sent in pieces, thus incurring additional time.

The evaluation reports and logs did show that when the TELEFAX systems were operating the technical data was transmitted and received prior to the generation of the part number select list used to perform item entry control and stock number request actions. If there was a backlog of technical data to send or there were interruptions, busy signals or equipment downtime, the drawings sometimes were received after the part number select listing was generated. When TELEFAX drawings were received they generally were received prior to the part number select listing or within a few days after. Rejects for lack of technical data were generally sent because the technical data was not received at all as opposed to being received late. Some ATC 44 rejects (indicating no technical data) were sent when technical data was actually received, but was inadequate for minimum reference type cataloging identification. An ATC YS should have been sent when technical data was received but was inadequate.

Drawings were mailed by TSARCOM during the AUTODIN Test. Drawings were also mailed by SMALC and SPCC when there was a backlog of drawings to transmit due to the amount of data to sent or due to TELEFAX system problems. Sometimes

drawings that were mailed were still received prior to or shortly after the SSR transaction had been received, validated and provisioning screening performed with DLSC.

The time to transfer a drawing by mail is a function of the time to select and match a drawing to an SSR, time to package the drawing for mailing, mail time, the time to receive, unpack, sort and establish a PCC file for the drawings. The drawing must then be matched again with the SSR by the receiver of the SSR after the SSR has been input for computer processing to validate the transaction, perform DLSC screening and to generate a part number select list for part numbers that could not be matched to an NSN.

(3) Summary. In terms of transmission time, the analysis of evaluation reports and logs indicates that the alternative of transmitting SSRs and technical data electrically is feasible. However, the TELEFAX systems tested take too long to transmit large, high density pieces of technical data predicated upon the volume of technical data to be transmitted. Conceptually an SSR transaction and technical data can be electrically transmitted separately, received and matched together with a net savings in transmission time over mailing the SSR and the technical data or over forwarding the SSR over AUTODIN and mailing the technical data. If the technical data is mailed before the SSR is generated and sent over AUTODIN, it is still possible to realize a net savings in transmission time over mailing the SSR and the technical data together.

b. Control

Control of a system involves the ability to accurately generate, submit input transactions and to process the input transactions in a timely manner in order to produce a desired output. The system should be capable of precluding the loss of transactions from the system and provide an audit trail to record, track and control all events that take place during the life cycle of a chain of related transactions.

A transaction can be lost to the system if it is submitted and not received or if it is submitted and not recorded in the system. A transaction can also be temporarily lost to the system if it takes too long in transit from one system to another or if related transactions cross each others paths in the communications network. To the extent that the status of transactions are not recorded in the system, the files of the system reflect a certain degree of inaccuracy.

An example of temporarily or permanently lost transactions was previously described in the case of advice, followups and responses. If a request transaction is delayed in transit

or not yet recorded in a suspense file and an advice is delayed in process or in transit, this can result in a followup being sent out to determine the status of a request. If the initial transaction has not been recorded in the file it will appear to be lost and a No Record advice will be provided indicating that the request is not in the system. If the request is subsequently received and/or recorded in the suspense file, the No Record reply may cause a duplicate transaction to be submitted, with advice on the initial transaction being received by the submitter after the resubmission has taken place. The above actions represent a lack of control in the system in terms of accuracy of files, loss or temporary loss of records and an inadequate audit trail. A number of reports were generated to determine if the electrical transmission of management and technical data could improve the control of the SSR System. An analysis of these reports is presented below.

(1) Followups/Responses

An analysis of followups and responses was made for the AUTODIN and Non-AUTODIN Test period. This analysis indicated that there was an 85% reduction in the number of followups in relation to the number of requests for the principal submitter of followups during the AUTODIN Test. The receiving activity experienced an overall reduction of 70% in the followups during the corresponding test period for all activities participating in the test. A review of the response to the followups indicated that the rate of No Record responses dropped by 68% during the AUTODIN Test period.

These statistics reflect an increase in control over the status of SSR transactions. This was caused because requests were being recorded in the suspense files of the IMM at an earlier point in relation to the date of request than during the Non-AUTODIN Test period. The decrease in the transmission time for the request coupled with a more direct transfer from AUTODIN to computer operations in place of the transfer from mail to the functional component to computer operations placed the request transaction in the suspense file prior to the receipt of the followup. In addition, since the request was received earlier, some of them were completed and advice had already been transmitted and received, thus precluding the necessity for a follow up. When a No Record advice is received, some SICCs prepare and resubmit a duplicate SSR. The reduction in the No Record responses reduced the resubmissions by a corresponding amount thus increasing the accuracy of the system.

(2) Offers/Replies. During the Non-AUTODIN Test period, 5.7% of SMALC's rejects were attributed to ATC 08 support rejects because the reply to the offer had not been received in time. During the AUTODIN Test period the ATC 08 reject rate

declined 99%. However, during the Non-AUTODIN Test period SPCC experienced a 0.6% ATC 08 reject rate which increased to 2.1% during the AUTODIN Test. This is attributed to the batching/scheduling technique used by SPCC to transmit over AUTODIN while the Air Force transmitted their transactions on a daily basis. Although AUTODIN can decrease submission/transmission time, net savings will not be realized unless the AUTODIN system is used in conjunction with an appropriate batching/scheduling system by the data processing and/or functional operational elements.

(3) Summary. Both the quantitative analysis and evaluation reports of the test SICCs and IMM support the conclusion that the use of AUTODIN for SSR transactions tends to improve control of the SSR process. The test SICCs felt that there was an improvement in the control of technical data as well. The test IMM felt that there was less control over the submission, receipt and processing of technical data. The log maintained by the test IMM seemed to indicate that there was probably a better audit trail of both the submission and receipt of technical data and therefore there was more control in that respect. The question of the amount of technical data received will be discussed under processing effectiveness below. The audit trail associated with technical data under the TELEFAX Test was probably a function of the conduct of the test itself. The electrical transmission system tested does not in, and of itself, lend itself to the creation and maintenance of an automated suspense and control system for technical data. Conceptually, however, electronic computer and communications systems other than the one tested could conceivable provide better control over the process for recording, submitting, receiving and processing technical data.

c. Processing Effectiveness/Efficiency. Processing effectiveness and efficiency relate to the performance of the SSR system in terms of the quality and quantity of the output or product and the time required to produce the output. Effectiveness is concerned with the quality or quantity of the product, such as the number of accept, reject or offer actions and the type of acceptance or reject action taken. Efficiency relates to the time to accomplish the particular accept, reject or offer action. A number of reports were generated from the DODSSR Data Base in an attempt to measure the performance of the SSR system during the AUTODIN/TELEFAX Test and to determine if the test resulted in net improvement in performance.

(1) Frequency Distribution. The distribution and frequency of transactions were analyzed for the AUTODIN, Non-AUTODIN, TELEFAX, and Non-TELEFAX Test populations. Generally the frequency of occurrence of single open request transactions was less in all the AUTODIN Test populations than during the Non-AUTODIN Test population. There were 13.3% more request transactions without any kind of an accept, reject or offer advice than

in the AUTODIN Test populations. This indicates that more advice was received during the AUTODIN Test periods and was received sooner, thus the system was more effective and efficient in terms of this measurement during the AUTODIN Test. No determination could be made as to the relative effectiveness/efficiency of the TELEFAX versus the Non-TELEFAX periods because the percentage of transactions with advice not received was closer together for the two populations. In addition, because of the backlogs, system interruptions and conditions experienced during the TELEFAX period, some of the technical data was mailed in place of being transmitted via TELEFAX during the test. The DODSSR Data Base could not be used to isolate on a transaction basis, which SSR transactions forwarded by AUTODIN had their associated technical data forwarded by TELEFAX or by mail.

(2) Completion of Individual Transaction Events. The use of an electrical or electronic system for transmitting a document whether it is an SSR transaction or a drawing can not directly decrease the time to accomplish a particular processing activity. However, the transmission system indirectly can influence the completion time for an event by decreasing the time to transfer a document from one processing activity to another by reducing pure transmit time, facilitating direct routing from one automated processing routine to another, eliminating wait time and eliminating the need for certain manual processing actions. Timing of activities and events can be controlled or coordinated to permit the accomplishment on one or more actions on SSR transactions while other actions such as item entry control awaiting other material such as technical data may be able to be commenced earlier in time because previously required tasks such as validation and provisioning screening actions had been performed earlier on SSR transactions.

(a) Requests. It takes from two weeks to one month or more to send requests using mail counting internal processing time at the sender and receiver and the actual mail time. The AUTODIN time is from one to three days. Using AUTODIN a savings of 15 to 30 days can be realized.

(b) Accept Advice. Accept advice on stock numbered items and initial accept on part numbered items can be reduced by approximately two to three weeks if AUTODIN is used for submission of the request, provisioning screening and return of the advice to the requestor.

(c) Reject Advice. Validation rejects can be received much faster if the request and the advice are transmitted over AUTODIN. Savings are realized principally in the internal processing times at the SICC and IMM plus the transmission time. If AUTODIN were used both ways a validation reject

could be received within a week's timeframe as opposed to the three to four weeks timeframe if the request and advice were sent by mail. Rejects as a result of DLSC screening would take about a week longer. Part number rejects would take longer, contingent upon the type of reject, but the minimum savings to be realized should be the net transfer time by mail minus the net transfer time by AUTODIN.

(d) Offer/Reply. Offer/reply involves a minimum of three transactions; a request, an offer and a reply. Savings attributable to AUTODIN would be the additive of the difference between the net mail and AUTODIN transfer times. Reject of support (withdrawal of an offer) would be reduced by the elimination of most of the ATC 08 rejects due to the use of AUTODIN.

(e) Followup/Response. The total cycle for a followup and a response can be reduced to two to three days if a weekend is not involved and from four to seven days if a weekend is involved. This assumes the automated generation of the response by the sender, the automated generation of the response by the receiver of the followup and the use of AUTODIN by both the sender and receiver of the followup.

(3) Completion of Transaction Chain Events. Differences in the processing times for transaction chain patterns using mail versus AUTODIN are a function of the number of transactions in the chain under each of the alternatives and the transfer times for each of the transactions in the chain. The frequency distribution for AUTODIN versus Non-AUTODIN Test populations showed that the number of transactions per chain were reduced significantly using AUTODIN. This was due chiefly to the elimination of single followups, multiple followups, support rejects, and resubmission of requests on a No Record advice condition. Since the total chain time is derived by summing the individual submission and processing times for each of the transaction types in the chain, total chain time was reduced because the chains were shorter and thus contained fewer submission and processing times to add up. In addition AUTODIN Test population times for chains identical to Non-AUTODIN Test populations will take less time corresponding to the sum of the differences of the net transfer times for AUTODIN and Non-AUTODIN for all the transactions in the chain.

(4) Completion of Processing Events. The principal activities involved in the life cycle of the supply support request system involve wait, transmit and processing activities. Any improvement in the system must be realized through the elimination, reduction or modification of these activities. Each of the activities in the SSR process that can be affected either directly or indirectly by the electrical transmission of SSR transactions and technical data is discussed below in terms of their normal order of occurrence on a time sequential basis.

(a) <u>SICC SSR Generation and Submission Processing</u>

The SICC processing, for the purpose of this analysis, commences with the generation of the request. After the request is generated, the SSRs in card or listing form are sent to the functional area for matching with technical data and packaging for mailing. After being packaged, the SSRs and technical data are forwarded through the internal mail system and the U.S. mail to the IMM. The principal times involved are the times to transfer the SSR transactions to the functional area, the wait times in the functional area, the time to match drawings with SSRs, the time to package the SSR transactions and technical data, the wait times at the internal mail facilities and the actual time to transmit by mail. This takes from two to four weeks and more for requests with an NSN, PSCN or part number.

Other than the requirement for sending technical data with SSR transactions and the custom of processing SSRs in packages, there is no reason why all SSR transactions need be constrained by the time and procedures used for those SSRs requiring technical data. If SSRs not requiring technical data, were sent by AUTODIN as opposed to mail, a savings of one to two weeks can be realized in the internal processing and wait times associated with the manual activities currently performed in submitting supply support requests by mail.

SSR transactions not requiring technical data include SSRs with NSNs, PSCNs and those part numbered SSR items containing a date technical data is to be supplied or a technical data justification code indicating that technical data is not available and will not be supplied. About 40% of the SSRs with part numbers are not provided with technical data under the current system. About 52% of the requests are for NSN items, 48% for part numbered items and less than 1% for PSCNs. This means that over 70% of all the requests that are sent do not contain technical data but are constrained by the submission method of the 30% that do. Clearly, those SSRs that do not require technical data could be split out from those that do and be sent by AUTODIN. The question remains as whether there is any benefit to be gained from also sending the part number SSRs by AUTODIN and separately sending the technical data by another electrical mode or by mail.

The advantage of sending the part number SSRs by AUTODIN separately from the technical data lies in the potential for savings in internal processing time at the SICC and IMM and in the transmission time if the technical data can be sent electrically, or if the technical data can be mailed prior to the submission of the SSR. If the control data can be annotated on the technical data prior, to the generation of the SSR,

it can be forwarded separately by mail prior to the generation of the SSR transaction with an estimated savings of one to two weeks in net transfer time attributable to the savings in internal processing time at the SICC.

(b) Transmission. The transmission time is a function of the media and mode of transmission. If AUTODIN is used for SSR transactions a savings of two to three weeks transmission time can be realized as shown by the AUTOTIN Test activities. If the drawing is sent electrically, the time will approach the transmit time for electrical transmission of SSR cards over AUTODIN. The TELEFAX Test indicates that it is possible to significantly improve the transmit times for technical data. However, submitters and receivers of the technical data using the TELEFAX system experienced some difficulties with that system. Since these difficulties are more associated with processing they will be discussed under IMM processing below. The actual transmission time for hard copy drawings will probably not be reduced by mailing separately from the SSR transactions alone. However, there is a potential for direct savings in mail time if aperture cards were mailed using higher class mail due to the smaller bulk and easier handling of the aperture cards over hard copy drawings. Otherwise, any savings in mailing the hard copy drawings separately would have to be realized indirectly through a reduction in SICC processing and wait time as described above or in IMM processing and wait time as described below.

(c) IMM Initial Data Preparation Processing

Currently the SSR transactions and technical data are received together in a package by mail. The SSR transactions must be separated from the drawings and forwarded to data processing operations for computer processing. The technical data must be filed in a Provisioning Item History Envelop (PIHE) and filed while waiting for the SSR transactions to be initially processed and received back from the computer.

During the AUTODIN Test the SSR transactions were sent directly by AUTODIN operations to computer operations bypassing the functional operations. The drawings were either sent by TELEFAX or by mail separately from the SSR transactions. All technical data whether sent by mail with SSR transactions, separate from SSR transactions by mail or separately from SSR transactions by TELEFAX require the annotation of control data on the technical data. Regardless of which way the technical data is received, it must subsequently be matched up with SSR transactions received back from the computer.

When the SSRs were received over AUTODIN, there is a savings in wait and processing time in initial data preparation, since the transactions do not have to wait to be

forwarded from the local mail room to the functional area and await sorting out of the transactions by the functional area for forwarding to computer operations. It is estimated that approximately one week's internal processing and wait time was saved by forwarding the SSR transactions directly from AUTODIN operations to computer operations. Since the transactions went from computer to AUTODIN to computer in most instances, there was greater control realized by elimination of manual processing and use of computer control of transactions from generation until introduction into the suspense file of the IMM.

The submitter and receiver evaluation reports indicated that there were problems in transmitting and receiving technical data over TELEFAX due to the interruptions experienced on the voice grade communications lines and the time to transmit and receive the data. There was some question as to the marking of control data on the drawings sent by TELEFAX, however, during field research the same problems were reported for drawings that were mailed. The time resources required to submit and receive technical data over TELEFAX and the problems experienced are a function of the system tested as opposed to the concept of electrical transmission of technical data.

The technical data sent by TELEFAX was generally received shortly after the receipt of the SSR transactions over AUTODIN and almost always prior to the requirement to process the technical data. TELEFAXED data that was received more than a day or two after the earliest used data was late due to problems in transmission or was oversized drawings. Even when technical data was mailed separately from the SSR transactions it was generally received a few days after the requirement for its initial use. It is not known if this is a function of the submission and mail times for the data mailed separately or whether it was a function of the scheduling of the AUTODIN submission of SSRs by two of the test submitting activities.

(d) <u>IMM Validation Processing</u>. There is no direct savings in validation processing to be realized due to the AUTODIN transmission of SSR transactions or the TELEFAX of technical data. However, there is an indirect affect upon the timing of the start and completion of validation and entry of the transaction into suspense files. Due to the savings in internal processing and wait time at the SICC, actual transmit time using AUTODIN and savings in IMM data preparation time at the IMM by direct routing from AUTODIN operations to computer, the validation processing can commence earlier than if the transactions had been mailed. Since validation commenced earlier in time, reject transactions can be returned earlier for correction and resubmission and valid transactions can be processed to the next step.

(e) <u>Catalog Data Screening</u>. Transactions that pass validation are then sent to DLSC for screening; part numbers to determine if there is an NSN assigned and NSNs to verify the NSN and obtain the latest catalog data on the item. There is no direct decrease in time to perform this operation; however, this function can be performed earlier in time due to the earlier receipt and introduction into processing. Transactions that are sent back to the SICC as a result of DLSC screening can be returned earlier because the function was commenced and completed earlier. Transactions that were not returned can be introduced to the next step earlier in time.

(f) <u>Item Entry Control</u>

Transactions that do not require item entry control are NSNs and PSCN items. An NSN item can be accepted or rejected right after DLSC screening and need not be processed through this function. PSCN items can be sent directly for NSN request and assignment. Part numbered items for which no technical data will be provided can be directly introduced into this function if a proper item name has been supplied. There is an indirect reduction in processing time for these items attributable to the earlier start through this process achieved by reductions in transmission time and elimination or reduction in other processing activities at the SICC or in data preparation at the IMM.

Items for which technical data was supplied and was sent by TELEFAX was usually received prior to the receipt of the part number select list used to commence item entry control. However, the quality of the technical data received over the TELEFAX system was not always adequate in terms of legibility to be sufficient to use for item entry control, item identification, NSN assignment purposes, or for subsequent entry into the technical data library. The receiving test activity estimates that about 50-60% were usable for item entry control and item identification; 90% for NSN request and assignment and only about 2% were considered usable for entry into the technical data library. As a result of the review of the input and output products from the TELEFAX system and an analysis of the evaluation report submitted by the test receiver, it is concluded that the "system as tested," while resulting in a significant reduction in submission/transmission time, does not provide a product of sufficient quality to be usable by the IMM. For those items with usable technical data received by electrical transmission, a significant reduction in total SSR processing time can be realized. However, the quality of the image received should approach library quality legibility to cause a significant improvement in technical operations functions.

It should be noted that even when drawings were mailed, they were sometimes received shortly after receipt of the part number select list. There appears to be a potential for indirect savings in overall processing time if:

* The hard copy drawings could be properly marked with control data and mailed earlier by the SICC.

* Aperture cards were sent by higher priority mail so that they could be received earlier in the cycle.

The general consensus of the test activities was that the concept of electrical transmission of technical data did introduce a greater element of control and should be explored further by testing other techniques to see if the transmission time, ease of operator functions could be simplified on the submitting and receiving ends, and the quality of the transmitted image could be improved. Transmitters of technical data via mail also indicated an improvement in operations by separately mailing the technical data. The receiving activity indicated problems in matching technical data with SSR output because control data was not always annotated on the technical data. Actually since the matching of technical data with SSRs is eliminated at the SICC, the sorting out of SSRs from technical data is eliminated at the IMM, and the technical data must be temporarily filed and matched with the part number select items anyway, there is a potential for improvement in the system by mailing the technical data separately from SSR transactions, if the technical data is properly marked with control data.

(g) Item Identification, NSN Request/Assignment. This activity can be improved if technical data in the form of descriptive technical data or an item name can be provided with the SSR transaction or prior to the time for commencement of this action. The minimum data required for assignment of a stock number is a valid item name in addition to the reference number. Item name should always be provided with part numbered items. It is required to be provided either in technical data itself or in the form of an item name card. Some systems generate an item name card for all items and pull it if technical data is supplied. There does not appear to be any reason why item name cannot always be supplied with the SSR transaction submission though additional technical data is supplied. If item name were always provided in the SSR transaction about 3.3% of the rejects could be eliminated. If the item names were always supplied stock numbering action and supply support could proceed and technical data received later could be used to upgrade the item identification.

(h) IMM Advice Processing. Advice processing and submission is a function of the other activities described above. To the extent the other activities are completed sooner, advice can be transmitted sooner. Use of AUTODIN to transmit the advice will decrease actual transmission time.

(i) SICC Advice Processing. A decrease in the time for a SICC to receive and process advice is a function in a decrease in the times for prior activities and events. To the extent that the times for prior activities and events are decreased, there will be a net decrease in the time when advice is received and processed by the SICC.

I. SUMMARY ANALYSIS, CONCLUSIONS AND RECOMMENDATIONS

1. Analysis and Conclusions

The sum total research by the DODSSR Study Team including system design review, operational implementation review, data collection and analysis, and the AUTODIN/TELEFAX Test clearly indicated the advantage of electrically transmitting SSR transactions that do not require technical data over AUTODIN. This includes the following categories of items:

- Items with stock numbers.

- Permanent system control number items.

- Part number items for which technical data is not required or will not be supplied.

The advantages of submitting technical data electrically can be realized only if the data can be easily and rapidly transmitted with the received image being of a quality that approaches the requirements for entry into the technical data library. The TELEFAX system tested did not meet these requirements, but the concept of electrical transmission has potential and should be continued to be explored.

The advantages of mailing technical data while sending the SSR transaction over AUTODIN are not so obvious as the case for those items not requiring technical data. However, there appears to be a potential for a decrease in total processing time as well as an increase in control if the technical data is properly marked with control data, at a minimum with the PCC, ISN, and submitting activity, and submitted as early as possible by the SICC, including the consideration of mailing the technical data after potential SSR candidates are known, but prior to generation of the SSR transaction. The item name should be supplied with the SSR transaction. A method of following up for technical data

should be established and a management report developed to show information pertaining to the instance of items where technical data was received when required, frequency of followups, response to follow ups and final technical data received. Goals should be established and a copy of the report should be provided by the IMM to each of the SICCs in order to monitor and control the process. As a corollary action a definition and purpose of technical data should be reviewed and requirements for technical data for the following uses should be established:

- Selection of maintenance significant items.
- Item entry control.
- Catalog identification.
- Purchase description.

2. Recommendations. The SSR procedures and systems should be revised in accordance with the following recommendations.

a. All supply support requests for which technical data is not required should be sent over AUTODIN using the most direct interface between computer operations and AUTODIN operations available at the sending and receiving activities. Item name information should be provided for all items forwarded over AUTODIN. An early implementation date should be provided for this recommendation since it can be easily implemented by all activities possessing AUTODIN terminals.

b. Procedures and systems at SICCs and IMMs should be revised to transmit SSR part numbered items for which technical data is required and available over AUTODIN with the technical data marked with control data submitted as soon as SSR candidates are selected.

c. A followup and reporting procedure should be established to monitor and control the transmission and receipt of technical data. A procedure for following up for technical data should be established. A management report should be developed to provide goals for the receipt of technical data and to monitor and control its receipt.

d. The definition and purpose of technical data should be reviewed and requirements established for its acquisition, use and retention for the following categories of usage:

* Selection of maintenance significant items.
* Item entry control.
* Catalog identification.
* Purchase description.

e. Assign a study to the Defense Logistics Analysis Office to determine the feasibility of scanning technical data at one geographic location, converting the graphic data to an electrical or electronic signal and transmitting the signal to another geographic location to be converted to an image or facsimile of the input document of sufficient quality to be used for technical operations functions and retention in a technical data library repository.

CHAPTER III

EDIT/VALIDATION ANALYSIS

A. INTRODUCTION

1. General. The Special Projects Group (SPG) for Provisioning cited an excessive number of rejected SSR transactions as one of the major problems in initiating the DODSSR Study. This problem in conjunction with other SPG reported problems was researched during the SDA and SICC/IMM activity visits made by the study team. These activity visits led to several observations that warranted further research. First, SSRs were being rejected for several reasons of which invalid data was only one category. Second, each of the Services/Agencies were generally including automated validation of SSR data elements as part of their SSR Systems Design. Third, some data elements were being edited when found to be invalid as part of automated SSR systems design. Finally, the validations and application of validation reject codes differed significantly on an inter/intra Component basis for incoming and outgoing SSR transactions.

2. Purpose. Preliminary analysis of SSR transactions from the DODSSR data collection showed a significant number of rejects due to invalid data. The study team concluded the reason for many of these validation rejects was conversion from the old SSR procedures and formats to those contained in the IMM Manual and to the varying amount of manual vs. automated processing done by the different Components. This Chapter analyzes the manual validations performed by the Components and the validations contained in the automated SSR systems design of each Component (whether implemented or not) to determine if validation of SSRs will be compatible upon implementation of the designed systems or if some standardized validation criteria must be developed to reduce the occurrence of validation rejects.

3. Methodology. During the operational implementation review at SICC/IMM activities, the manual validations being performed were researched to the satisfaction of the study team. However, due to the variability in automated design concept, design development, documentation availability, and implementation status, the study team found additional research was necessary to perform the required validation analysis. This led to the development of a validation analysis questionnaire and a validation test as additional tools for the analysis. After coordination with the SPG and individual Component contact points, the validation analysis questionnaire was mailed to each Component System Design Activity for completion. The validation

test was mailed to each Component System Design Activity or alternate activity to be executed using operational automated validation program modules.

a. Validation Analysis Questionnaire

The validation analysis questionnaire was developed from the general findings from field research and the available documentation provided by the system design activities. The automated systems designs were found to contain multiple validation program modules, multiple levels of validation and varying detailed data element validation within levels. Five different levels of validation were found to exist. These levels include a package validation level, a match/duplicate validation level, a control data element validation level, a key data element validation level and a detail data element validation level. The package validation level generally includes validations for PCC package and line item package combinations. The match/duplicate level generally includes a check for duplicate submittals in the same processing cycle and a match of advice and SSR change transactions against the automated SSR Suspense File to insure a valid SSR transaction exists on the file. Control data elements are those used for sequencing of transactions, controlling the flow of transactions or retrieval of previously submitted SSR data. Key data elements are those in addition to control data elements required to process an SSR transaction; e.g., NSN. Detail data element validation is done on the remainder of data elements in each SSR transaction. It is within detail data element validation that editing of invalid data elements takes place.

The validation analysis questionnaire consisted of a series of questions to be answered and matrices to be completed to provide Component equivalent information on the number and type of validation program modules, the levels within each program module, the hierarchy of these levels, the specific criteria and validation reject codes used in each level and validation techniques used by each Component. Both the Marine Corps and GSA were in early stages of system design at the time of questionnaire dissemination. Therefore these Components were not asked to complete this questionnaire.

Preliminary analysis of the questionnaire indicated widely varying validation conventions and criteria among the Components. This led the study team to develop a set of validation criteria based on the questionnaire and the study team's literal interpretation of the intent of the IMM Manual. This validation criteria was applied to the DODSSR data base to determine the potential for development of standardized validation criteria and is discussed below.

b. Validation Test. As an additional method of documenting the validation conventions and criteria being used for use by the study team in analysis, the study team developed three EAM card decks of test data. Each deck contained a series of valid and invalid PDSSR, LISSR, and LIAC transactions. One deck was designed to be used by each of the Services as a test of outgoing validation concepts and criteria. The second deck was designed to be used by each of the Services as a test of incoming WIMM validation concepts and criteria. The third deck was designed to be used by the Army and DLA as a test of incoming CIMM validation concepts and criteria. As with the validation analysis questionnaire, the validation test was not given to the Marine Corps and GSA because of the early stage of their automated systems development. The study team requested that each deck be input to the Component automated SSR Application and that all normal outputs as well as some specific file dumps be provided the study team for analysis. It was hoped that this would provide a basis for validation analysis and as a byproduct some insight into the types of automated outputs normally furnished to the functional user. The responses from the Components ranged from completion of the test as requested to no response. Since this did not provide a consistent basis for analysis, the validation test results were not used as a basis for the validation analysis contained in this Chapter.

c. DODSSR Validation Criteria

As stated above, the preliminary review of the completed questionnaires showed that validation conventions and even the criteria for some data elements varied widely from Component to Component. This variation includes sequence of data element validation, multiple vs single error identification, and internal error code usage as three examples. Many of these concepts appeared to have merit and were designed to counteract some problems reported to the study team during the activity visits. One of these problems was that SSR transactions were submitted to an IMM and rejected for a validation error. These SSR transactions were then corrected and resubmitted by the SICC only to be rejected for a different validation error. Another problem reported was that some reject codes (ATCs) were not specific enough in identifying the data element in error. The most notable of these codes are '52' (Mandatory PDSSR Data Missing) and '32' (Mandatory LISSR Data Missing).

To show the effect of these conventions on the system as a whole and to test the feasibility for standardization by all Components, the study team developed the DODSSR Validation Criteria. This criteria was incorporated into a data processing specification, and computer programs were developed and applied to the DODSSR data base. A series of analytical reports

were generated from the results of this validation for use in a comparative analysis of validation conventions and criteria in conjunction with the validation analysis questionnaire.

4. Definitions. There are five terms used repeatedly in the chapter to describe and analyze the editing and validating performed by the Components and applied to the DODSSR data base. These are:

- Edit
- Validate
- Validation Level
- Validation Hierarchy
- Validation Conventions

These terms are defined here to provide a basis of understanding the information contained in this chapter.

a. Edit. To modify or delete invalid data, generally as the result of validation, to allow a transaction to pass to the next sequential operation and to preclude rejection of the transaction due to the invalid data.

b. Validate. To check data for correctness and compliance with prescribed standards, rules and formats.

c. Validation Level. A validation level consists of all data checks equal in importance rank or degree and occupying equivalent positions on a scale of validation criteria.

d. Validation Hierarchy. A validation hierarchy consists of all validation levels performed ranked in order of performance.

e. Validation Conventions. A validation convention consists of the valiation hierarchy, validation levels, validation structure, validation sequence, and any other validation concepts used other than the specific validation criteria itself.

B. MANUAL EDIT/VALIDATIONS

1. General. The manual validations performed by each Component were presented in Volume II. The specific data elements validated are repeated here to refresh the reader's memory of these validations and to allow easier reference for comparison with automated validations presented later in this Chapter.

2. Army

a. Outgoing provisioning and nonprovisioning SSR transactions are not formally validated. When an error condition is

encountered on outgoing PDSSR, LISSR, or LIAC transactions during routine processing; the error condition is corrected prior to transmission of the SSR transaction.

b. Incoming WIMM SSR transactions are manually validated for proper entries in the following data elements.

Provisioning Control Code
Activity Code To
Activity Code From
Date of Request
Item Serial Number
Retail Quantity
Replenishment Quantity

When an error is encountered in one or more of these data elements, the SICC is contacted by telephone to obtain the correct information which is then used in lieu of the information submitted on the SSR transaction. LIACs responding to these SSR transactions are manually generated and are not validated.

c. Incoming CIMM SSR transactions are manually validated by type of SSR transaction. PDSSR data elements validated include:

Document Identifier Code
Date Repair Parts Required
Provisioning Control Code
Activity Code From
End Item Name, NSN, etc.
Number of SSRs Enclosed

LISSR data elements validated include:

Document Identifier Code
Retail Quantity
Replenishment Quantity
Production Leadtime

Catalog transactions are validated for proper Document Identifier Code only. Corrections are made to invalid transactions received based on telephone communication with the SICC. LIACs are not specifically validated and errors on these transactions are identified during routine processing.

3. Navy

a. Outgoing provisioning and nonprovisioning SSR transactions, and related LIACs are not subjected to a separate validation processing step. These transactions may be found to be in error during routine processing, and if so, are corrected.

b. Incoming SSR transactions are subjected to minimal validation. Generally only control elements such as Provisioning Control Code and Activity Code To are routinely checked for proper entries.

4. Air Force

a. There is no manual validation of outgoing SSR transactions in the Air Force.

b. Incoming PDSSR and LISSR transactions are examined for proper package content. Specific data elements validated include:

Provisoning Control Code
Date of Request
Retail Quantity
Replenishment Quantity
Unit Price
End Item Quantity

When errors are encountered in any or all of these data elements, the SICC is telephonically contacted to determine the correct entries. The invalid SSR transactions are then corrected prior to entering them into the automated SSR Application. Advice transactions are not manually validated.

5. Marine Corps

a. There is no separate validation of outgoing PDSSR, LISSR or LIAC transactions. When errors are encountered during routine processing, they are corrected before processing continues.

b. Incoming SSR transactions are not validated separately by the Marine Corps. As with outgoing transactions, errors are identified during the normal course of processing. When an error condition is encountered, the SICC is notified of the error via LIAC with an appropriate reject code.

6. DLA. DLA procedures do not provide for manual validation of SSR transactions.

7. GSA. When SSRs are received they are validated for proper package content and the submitted Federal Supply Classification (FSC) in Part Number SSRs is checked to ensure it is an FSC managed by GSA. Other errors may be identified during routine processing. The SICC is notified of errors via manual generation of LIACs with an appropriate reject code.

C. AUTOMATED EDIT/VALIDATIONS

1. General

This section discusses the automated validation performed on SSR transactions and related validation conventions which detail the validation concepts designed by each of the Components. These validation concepts are discussed first on a Component by Component basis. This is followed by a presentation of the detailed validation criteria on a data element basis.

The discussion of automated validation conventions and criteria is limited to the Army, Navy, Air Force, DLA, and the validation developed by the DODSSR Study Team. The validation to be included in the automated systems design of the Marine Corps has not been sufficiently developed and documented to allow inclusion. The validation concepts designed by GSA are contained in their detailed systems design specification. This specification was furnished to the study team subsequent to completion of the validation analysis questionnaire by the other Components. The GSA validation criteria is therefore not specifically included in the analysis; however, a discussion of GSA validation concepts is included. In addition, review of the GSA validation criteria indicates it is consistent with that of the other Components.

2. Validation Conventions

a. Army

(1) Program Structure

The Army design includes validation as part of three program modules shown in Figure II-4, Volume II, Part 1, Chapter II. The SSR converter program module receives outgoing SSR candidates in random sequence from the Army Automated Requirements Determination Application. These candidates are validated for proper item identification, MOE Rule, Activity Code and Manager data. These candidates are also checked to insure they are consumable items. Valid candidates are formatted into SSR transactions which are posted to the Army SSR Suspense File and punched in EAM cards in subsequent program modules. Rejected candidates are appended with an Army unique reject code and passed to the Army Standard Reject Control Application for printing and manual action. Although these transactions pass through other validation program modules before being posted to the SSR Suspense File and punched in EAM cards; they generally do not undergo further detail data element validation. The philosophy behind this is

that these SSR transactions are mechanically generated from data resident on automated provisioning files and the local TIR file. This data is subjected to extensive validation before being entered on these files and thus does not require further validation.

The SSR Edit and Validation program module receives transactions from the SSR Converter program module and manually input transactions. Manually input transactions include manually generated outgoing SSR transactions, incoming SSR transactions, and both outgoing and incoming LIACs. These transactions are sorted into Provisioning Control Code, Activity Code To, Activity Code From, Date of Request, Item Serial Number, Document Identifier Code, and Card Number sequence prior to entry into this program module. Transactions from the SSR Converter program module are bypassed; all other transactions are validated. Transactions are validated until the first error is encountered and invalid transactions are assigned an Army unique reject code. This program module does no file recording.

The SSR File Maintenance program module receives the same transactions in the same sequence as those received by the SSR Edit and Validation program module. This program module validates input transactions against the SSR Suspense File for duplicate/match/nonmatch conditions. All valid transactions and some invalid transactions are posted to the SSR Suspense File by this program module. Invalid transactions not posted include duplicate transactions, advice transactions with no matching LISSR transaction on the SSR Suspense File, and transactions with Control Data Element or Key Data Element Errors. Invalid transactions identified in the program module are assigned an Army unique reject code.

The SSR application automatically generates some advice transactions. Those generated by this application are not validated prior to either punching in EAM cards or being transferred to magnetic tape for AUTODIN transmittal.

(2) Validation Levels

The Army SSR Application has all five levels of validation imbedded in it. Only the SSR Edit and Validation program module uses all five levels. The SSR Converter program module does detail data element validation on selected data elements as discussed above. The SSR File Maintenance program module performs match/duplicate level validations only. The match/duplicate validations performed by this program module include:

* An initial submission SSR is checked against the SSR Suspense File for matching control elements. If a match is found, the SSR is rejected as a duplicate.

* Each SSR change transaction is checked against the SSR Suspense File for matching control elements. If no match is found the SSR is rejected as invalid.

* Each manually generated outgoing LIAC and all incoming LIACs are matched against the SSR Suspense File for matching control elements. If no match is found, the LIAC is rejected as invalid. The exception to this is incoming follow-ups which are not rejected when no match is found; a No Record followup response transaction is prepared for transmission to the SICC when this occurs.

The hierarchy of validation levels in the SSR Edit and Validation program module is package validation, match duplicate validation, control data element validation, key data element validation, and detail data element validation. A PCC package validation is performed first and consists of a check for each PDSSR transaction with Type Change Code (TCC) = 'N' or 'V' to ensure it is accompanied by one or more LISSR transactions with TCC = blank or 'V' respectively. Army validation allows for a PDSSR transaction with TCC = 'P' to be submitted/received without accompanying LISSR transactions. Other package validations performed include:

* Each part number SSR submittal must consist of a card 1 and card 2.

* Each CXB card number 2 having a Document Availability Code (DAC) = '2' or '4' or '6' must be accompanied by an Item Name Transaction (CXF) with identical control elements (except Document Identifier Code (DIC)).

* Each Item Name Transaction (CXF), Additional Reference Number Transaction (CXG) and Additional User Transaction (CXK) must accompany a LISSR transaction with identical control elements (except DIC).

A duplicate check is made on input transactions for identical control data elements on two or more transactions. When this occurs, the first transaction continues processing and the remaining transactions are rejected as invalid. A check is also made against the SSR Suspense File for transactions with identical control elements, if a match is encountered, the transactions on file are purged and the new transactions continue processing. The data elements specified as control data elements include Document Identifier Code (DIC), Provisioning Control Code (PCC), Activity Code To (ACT), Activity Code From (ACF), Item Serial Number (ISN), Date of Request (DOR), and Type Change Code (TCC). Key data elements include End Item Name, NSN, PSCN, Manufacturers Reference Number/FSCM and Item Name.

All other data elements are considered detail data elements by the Army. Specific validation criteria for control data elements, key data elements and detail data elements is given in the Detail Validation criteria paragraph below.

b. Navy. The Navy SSR systems design totally separates outgoing SSR transaction processing from incoming SSR transaction processing as stated in Volume II, Part I. Incoming transactions are processed in separate program modules, in a separate job stream, and stored on a separate automated file. Since these transactions are handled separately, the validation conventions for outgoing SSR transactions are presented first followed by the conventions for incoming SSR transactions.

(1) Outgoing SSR Transactions

(a) Program Structure

Outgoing SSR transactions are validated in three of the five program modules shown in Figure III-6, Volume II, Part 1, Chapter III. These are the Program Data Record (PDR) Update, SICC SSR Validation and SICC SSR File Maintenance Program Modules. The PDR Update program module receives manually generated PDSSR transactions in random sequence. These transactions are validated prior to sorting them into PCC sequence for entry to the PDR File. Valid transactions are entered on the PDR File. Invalid transactions are assigned a Navy unique error code and output for correction.

SSR transactions input to the SICC SSR Validation Program Module are first sorted into PCC, ACT, ISN, DOR, DIC and Card Number sequence. All transactions input are validated for correct entries in all data elements. Invalid transactions with a single error are assigned an appropriate Navy unique reject code. Invalid transactions with multiple errors are assigned reject code 'V.' No file recording is performed by this program module.

The SICC SSR File Maintenance Program Module receives input SSR transactions in PCC, ACT, ISN, DOR, DIC, Card Number sequence. This program module validates transactions against the SICC SSR Suspense File. Invalid transactions are not posted to the SICC SSR Suspense File, but have the data elements in error blanked out in these transactions. These transactions are output for manual correction. All valid transactions are posted to the SICC SSR Suspense File.

The outgoing portion of the Navy SSR Application generates offer reply transactions and followup transactions automatically. When a followup response transaction is

received with ATC = '66,' an initial submission SSR transaction is regenerated using SICC SSR Suspense File data. These transactions are not validated prior to output for transmission to an IMM.

(b) Validation Levels

The PDR Update Program Module performs detail data element validation only. Each PDSSR transaction input is validated for proper entries in DIC and TCC.

The SICC SSR Validation Program Module performs detail data element validation and package validation. Detail validation criteria is given in the Detail Validation Criteria paragraph below. Package validations performed on outgoing SSR transactions include:

* Each valid PDSSR transaction must be accompanied by one or more valid LISSR transactions with matching PCC, ACT, and DOR.

* Each valid item name transaction, additional manufacturer reference number transaction and additional user transaction must be accompanied by a valid LISSR transaction with matching PCC, ACT, ISN and DOR.

* Each Part Number LISSR (C/WXB) must consist of a valid Card Number 1 transaction and Card Number 2 transaction.

The SICC SSR File Maintenance Program Module performs match/duplicate validations. Each input transaction is checked for a duplicate transaction based on matching PCC, ACT, ISN, DOR, DIC and Card Number. If duplicate transactions are found, the first continues processing and the remaining transactions are rejected as invalid. Outgoing SSR change transactions and incoming advice (CX1) and followup response (CX4) transactions are matched to the SICC SSR Suspense File on PCC, ACT, ISN, and DOR. Transactions for which a match is not found are considered invalid and are rejected.

The outgoing SSR validation described does not include separate levels for control data elements and key data elements. Although the PCC, ACT, ISN, DOR, DIC and Card Number are used for sequencing and control, they are not identified as control data elements and are not validated as a separate entity in detail data element validation.

(2) Incoming SSR Transactions

(a) Program Structure. The WIMM SSR Validation Program Module performs all validation for incoming WIMM

SSR transactions. This program module sorts all input transactions into PCC, ACF, DOR, ISN, DIC, TCC and Card Number sequence prior to validation. The incoming SSR system design includes validation of PDSSR, LISSR and Advice (CX1) transactions input to this program module. Validation of other input LIACs and LIACs generated by this application is not performed. Transactions are validated until the first error is encountered. Then an IMM Manual reject code is assigned and a reject advice transaction is generated. Although this program module performs no file recording, the WIMM SSR File Maintenance program module posts both valid and invalid transactions to the WIMM SSR Suspense File.

(b) Validation Levels. Within the WIMM SSR Validation program module three distinct validation levels exist. A package check is made to ensure each PDSSR transaction submitted is accompanied by a LISSR transaction and vice versa. In addition each Part Number LISSR (WXB) Card Number 1 transaction is checked to ensure it is accompanied by a Card Number 2 LISSR transaction with the same PCC, ACF, DOR, ISN, DIC and TCC. A duplicate check is made on each LISSR based on PCC, ACF, DOR, and ISN. All duplicates found (except WXB combinations) are rejected as invalid. The final level of validation is detail data element validation. Each data element is validated in turn starting in card column 1 and continuing through card column 80. The specific detail data element validation criteria is discussed below with that of the other Components.

c. Air Force

(1) Program Structure

Air Force systems design includes validation of all incoming and outgoing SSR transactions in the SSR Validation and SSR File Maintenance program modules of the Air Force SSR Application shown in Figure IV-5, Volume II, Part 1, Chapter IV. Input transactions are sorted into PCC, ISN, Document Number (DOR), Process Date, DIC, TCC and Card number sequence prior to validation.

The SSR Validation program module validates outgoing and incoming SSR transactions for up to six errors. After the sixth error is found the validation process for that transaction is terminated. For outgoing SSR transactions in error, a listing is produced containing the invalid transaction and one to six Air Force unique reject codes relating the errors encountered. For incoming SSR transactions in error, a reject advice transaction containing an IMM Manual reject code (usually corresponding to the first error encountered) is generated. This program module performs no file recording actions.

The SSR File Maintenance program module also performs validation on both incoming and outgoing SSR transactions. This program module will output additional errors encountered for outgoing SSR transactions (up to the maximum of six). This program module posts all valid SSR transactions (except followups) to the SSR Suspense File. No invalid transactions are posted to this file.

The SSR Application in the Air Force like those of the Army and Navy does generate SSR transactions under certain conditions as described in Volume II, Part I. These transactions which are generated on an automated basis are not mechanically validated prior to output for transmission to another activity.

(2) Validation Levels

The Air Force validates SSR transactions at three levels. These are the package validation level, the match/duplicate validation level and the detail data element validation level.

The SSR Validation program module performs duplicate transaction validation, detail data element validation and package validations in that sequence. Each input transaction is checked for a duplicate transaction on both a total transaction and a control data element basis. All duplicate transactions are rejected as invalid. The criteria for detail data element validation is described in the following subparagraph. The package validations performed by this program module include:

* Each Part Number LISSR (W/CXB) must consist of a Card Number 1 transaction and a Card Number 2 transaction.

* Each LISSR transaction containing TCC = 'R' must be accompanied by a LISSR transaction with matching control elements having TCC = 'S.'

* Each Catalog transaction (CXF/G/K) must accompany a valid LISSR transaction with identical control elements.

The SSR File Maintenance program module performs package validation and matching transaction validations. The package validation includes checking for a valid PDSSR for each LISSR based on matching control elements. Also all input LIAC transactions and LISSR transactions having TCC = C, D, R or S, are matched to the SSR Suspense File for a matching LISSR transaction (based on control elements) with TCC = blank or V.

The above validations apply equally to incoming and outgoing SSR transactions. The basic control data elements used by the Air Force include the PCC and internally assigned Document Number for outgoing PDSSR transactions; and PCC and DOR for incoming PDSSR transactions. The ISN is added to these for outgoing and incoming LISSR, catalog, and LIAC transactions. All other data elements validated as described in the detailed validation criteria below are considered to be key data elements by the Air Force.

d. Defense Logistics Agency (DLA)

(1) Program Structure

DLA, acting only as a CIMM, receives SSRs for processing from Service SICCs. The DLA system design includes validation in the SSR Validation and SSR Daily File Maintenance program modules shown in Figure VI-3, Volume II, Part 1, Chapter VI. All input transactions are sorted into ACT, ACF, PCC, DOR, ISN, DIC and Card Number sequence prior to validation. The SSR Validation Program module performs validation on all input SSR transactions including PDSSR, LISSR, catalog, and LIAC transactions. Each transaction is validated until the first error is encountered. When an error is encountered, a reject advice transaction is automatically generated with an appropriate reject code from the IMM Manual for transmission to the SICC. The SSR Validation program module does no file recording.

The SSR Daily File Maintenance program module performs validation of offer reply transactions only. This validation consists of matching these LIAC transactions against the SSR Suspense File on control data elements. When a match is not found these transactions are not posted to the file, but are printed out for functional action. This program module performs all file recording in the daily application. SSR transactions posted to the SSR Suspense File by this program module include:

* Valid initial submission provisioning and nonprovisioning PDSSR, LISSR, and catalog transactions.

* Valid LISSR change transactions containing TCC = 'S' and the associated PDSSR transactions.

* Invalid initial submission provisioning and nonprovisioning PDSSR, LISSR and catalog transactions not containing package or control data element errors.

* Invalid LISSR change transactions containing TCC = 'S' and the associated PDSSR transactions not containing package or control data element errors.

* Automatically generated advice transactions.

* Valid offer reply transactions.

Transactions not posted to the SSR Suspense File include:

* Valid and invalid LISSR change transactions (except those with TCC = S as explained above).

* PDSSR, LISSR and catalog transactions containing a package or control data element error.

* Invalid offer reply transactions.

* Valid and invalid followup transactions.

* Followup response transactions.

The DLA SSR Application provides for automatic generation of all followup response transactions directly from a match of followup transactions against the SSR Suspense and SSR History Files. All advice transactions are also automatically generated either directly from validation or DLSC screening results or indirectly thru file maintenance transactions. These automatically generated transactions are not validated prior to transmission via AUTODIN to the appropriate SICCs.

(2) Validation Levels

Four validation levels are used in the SSR Validation Program Module. These are package validation, duplicate validation, control data element validation and detail data element validation levels. Although DLA identifies NSN, PSCN, Manufacturers Reference Number/FSCM, Procurement Method Code, Unit Price and Unit of Issue as Key data elements, these are not validated separately, but as part of detail data element validation. The hierarchy of validation levels is more complex than those of the other Components. The PDSSR Control Data Elements are validated first followed by validation of all PDSSR detail data elements. Package validations and duplicate validations are then performed followed by validation of LISSR and catalog transaction control data elements. Detail data elements of the LISSR and catalog transactions are validated last. Specific validation of the control and detail data elements is given in the Detailed Validation Criteria section below. The control data elements used by DLA include ACT, ACF, PCC, DOR, DIC and ISN.

Package validations performed by this program module include both PCC and LISSR package validations. Each valid PDSSR transaction must be accompanied by one or more valid LISSR transactions with matching ACF, PCC and DOR. Also each valid LISSR transaction must be accompanied by a valid PDSSR transaction with matching ACF, PCC and DOR. Each Part Number LISSR must consist of a Card Number 1 transaction and Card Number 2 transaction with matching control data elements. An item name transaction must accompany a valid Part Number or PSCN LISSR transaction with matching ACF, PCC, DOR and ISN. Other catalog transactions must be accompanied by a valid LISSR transaction with matching ACF, PCC, DOR and ISN.

Duplicate validations performed by the SSR validation program module include checks for duplicates on both a total transaction basis and on a control data element basis. When total transaction duplicates are found, the first transaction in the series is processed and the remaining duplicates are dropped from further processing. When a duplication of control elements occurs on two or more PDSSR or LISSR transactions, all transactions with duplicate control elements (but different identification data) are rejected as invalid. Item Name and Additional User transactions are not validated for duplicate control data elements. Additional Reference Number transactions with matching control data elements are valid and are processed accordingly.

The SSR Daily File Maintenance Program Module performs the offer reply transaction match validation described above. In addition, when a submitted LISSR transaction matches to an existing record on the SSR Suspense File on ACF, PCC, DOR and ISN, it must contain TCC = 'S' else it is rejected as a duplicate.

e. GSA Validation Criteria

(1) Program Structure

GSA acts only as a CIMM and as such processes only incoming SSR transactions. The GSA system design provides for validation of incoming SSR transactions in two program modules. Followup transactions are processed in a separate program module and are not subjected to the validations described here. Input SSR transactions are sorted into ACF, DOR, PCC, ISN, TCC, DIC and Card Number sequence prior to validation.

The first program module performing validation (SSR Validation program module) does the majority of validation. This program module performs validation on all incoming PDSSR, LISSR, and catalog transactions. Transactions are validated

until the first error is encountered and reject advice transactions are automatically generated containing an IMM Manual reject code for transactions found in error. Transactions in error are printed on a reject listing for functional use. This listing shows the reject code applied; however, when certain data elements are found to be in error a GSA internal reject code is shown. This is particularly true when an error is found in a PDSSR transaction and an ATC '52' is used in the advice transaction. These unique error codes are listed in Appendix D along with those of the other Services. This program module performs no posting to automated files.

The second program module (SSR File Maintenance) posts valid and invalid SSR transactions to the GSA SSR Suspense File. Some valid transactions are validated for a match/no match condition against the SSR Suspense File by this program module. An example of this matching validation would be checking an SSR change transaction for an initial submittal.

Followup transactions are matched to the SSR Suspense File in a separate program module. Followup response transactions are automatically generated based on the results of this matching process. Automatically generated transactions are not validated prior to submittal to the SICC. It is unknown whether manually generated advice transactions and offer reply transactions are validated.

(2) Validation Levels. Validation is performed at three levels in the GSA system design. The SSR Validation program module performs package level validations, match/duplicate level validation and detail data element level validation. Control data elements and key data elements are not identified separately for validation. As described above the SSR file maintenance program module performs match/duplicate validation only. Since this system is in the design stage and since the actual validation criteria shown in the system design are generally consistent with those performed by other Components, the detail data element validation criteria is not described.

f. DODSSR Validation Criteria

(1) Program Structure. The DODSSR validation design uses two program modules to perform the required validations. All transactions in the DODSSR data base including PDSSR transactions, LISSR transactions, catalog transactions and LIAC transactions are required to be validated by this design. The transactions in the DODSSR data base were sorted into ACF, ACT, PCC, DOR, ISN, DIC, and Card Number sequence prior to validation. Each transaction is validated for up to ten error conditions

before terminating the validation effort. A DODSSR reject transaction was designed to accommodate the control data elements, an ATC relating each error encountered and a series of report codes for use in automated analysis of the errors found.

(2) Validation Levels

The DODSSR validation is performed at five levels in two program modules. The first program module performs validation at the control data element level, duplicate validation level, detail data element validation level, and LISSR package validation level. The duplicate validation level contains no file match criteria because there is no SSR Suspense File within the DODSSR data base against which such a match could take place. The second program module performs PCC package validation only. The PCC package validation matches PDSSR transactions to LISSR transactions based on control data elements (ACF, ACT, PCC, DOR). Within the DODSSR data base, 2.5 percent of the errors encountered consisted of PCC package errors for PDSSR transactions.

The first program module validates the control data elements (ACF, ACT, PCC, DOR) in PDSSR transactions first. PDSSR transactions are next examined for duplicates based on these control elements and DIC. When duplicate PDSSR transactions are found, all matching transactions are flagged as duplicates. Duplicate PDSSR transactions accounted for 0.6 percent of the errors found in the DODSSR data base. Detail data element validation of PDSSR transactions is then performed. LISSR transactions, catalog transactions and LIAC transactions are validated for duplicate transactions first based on ACT, ACF, PCC, DOR, ISN, DIC, and Card Number. As with PDSSR transactions all matching transactions are flagged as duplicates. These duplicates made up 30.8 percent of the errors encountered in the DODSSR data base. After duplicate validation, control data elements are validated followed by detail data element validation. Several LISSR package validations are done in the first program module.

Each valid item name transaction is matched to a Part Number or PSCN LISSR transaction with the same ACF, ACT, PCC, DOR and ISN. Similarly, each valid Additional Reference Number and valid Additional User transaction is matched on ACF, ACT, PCC, DOR, and ISN to a LISSR transaction. When a match occurs, but the corresponding LISSR is invalid, the catalog transaction also becomes invalid. Each part number LISSR must consist of a card number 1 transaction and card number 2 transaction with matching ACF, ACT, PCC, DOR, ISN, DIC, and TCC. The final LISSR package check is to match each LISSR submitted with TCC equal to 'R' to a corresponding LISSR with TCC equal to

'S' and corresponding ACF, ACT, DOR, PCC and ISN. PCC and LISSR package errors for LISSR transactions were the most frequent errors found in the DODSSR data base and constituted 39.7 percent of the errors encountered.

The frequency of duplicate errors encountered in the DODSSR data base is artifically high due to a single factor. Generally, duplicate validation occurs on a cycle basis whenever the Component SSR Application is executed (daily, biweekly, etc.). With the DODSSR data base, all transactions collected over an eight month time period were validated in a single cycle. This condition caused duplicates to occur simply because of the length of the cycle not necessarily because the transactions are actually duplicative of one another. For example, in the DODSSR data base validation, PDSSR change transactions would be duplicative of initial submission PDSSR transactions because both contain identical control elements; also initial advice transactions and final advice transactions would appear to be duplicative for the same reason. This lengthy cycle affects multiple followup and followup response transactions for the same ISN as well. Another lesser cause for the seeming high volume of duplicates is an error in the DODSSR validation criteria which allows for only a single Additional Reference Number Transaction for each item. The IMM Manual allows for multiple Additional Reference Number Transactions to be submitted with a single LISSR transaction.

The DODSSR validation criteria does not include a check for total duplicates. The DODSSR Study Team believes that a total duplicate check is a necessary part of any complete SSR validation package; however, this validation was performed as a byproduct of establishing the DODSSR data base as discussed in Chapter I of this Volume. Therefore, it was omitted from the DODSSR validation criteria to prevent this validation from being repeated.

3. Detailed Validation Criteria

In this paragraph, the detailed data element validation criteria of each of the Components along with that used for validation of the DODSSR data base is presented. The criteria presented is generally expressed in terms of alphabetic, numeric or alphanumeric entries. The accepted definition of alphanumeric in data processing circles include alphabetic characters, numbers, space, and some special characters; however, the general usage of alphanumeric in this section includes only alphabetic characters and numbers. Of the specific criteria presented here, only that of the Air Force and DLA were fully implemented during the DODSSR data collection. The other Components were using the manual validations described in an earlier section during the data collection time frame. Due to this variability in implementation status, the comparisons of validation criteria presented

in this Chapter are a reflection of what could happen when all Components reach full implementation status rather than what necessarily occurred during the DODSSR data collection as discussed in Chapter I of this Volume.

The discussion here is centered around the four basic types of SSR transactions currently in being. These types are PDSSR transactions, LISSR transactions, catalog transactions and LIAC transactions. Each type will be discussed separately with specific data elements arranged in alphabetic sequence.

a. PDSSR Transactions

(1) Activity Code From. This data element is consistently validated by IMMs against an activity code table to insure submission of a valid activity code. The validation performed by SICC Services varies from the simple valid activity code determination by the Army to the automated insertion of the processing activity code by the Navy. The DODSSR validation criteria for this data element matches the entry to an activity code table.

(2) Activity Code To. Validation of this data element differs from Component to Component. As SICCs the Army and Air Force validate this data element for a valid activity code only. The Navy also validates this data element for a valid activity code, but ties this validation to the DIC; i.e., when the DIC is CWA, the Activity Code must reflect a CIMM activity. As an IMM the Army performs validation for a valid activity code only. Other IMMS check to make sure the Activity Code To reflects the Activity Code of the processing activity; i.e. if the processing activity is DESC, the Activity Code To must be TX. The DODSSR validation criteria for this data element is identical to that for Activity Code From described above.

(3) Contract Control Number. This data element is generally validated to ensure an entry is made (data element field not blank); however, as WIMMs the Navy and Air Force bypass validation of this data element. The DODSSR validation criteria validates this data element for a nonblank first character.

(4) Date NSNs are Required. As SICCs the Services validate this data element for all spaces or a numeric entry; when found to be invalid, the data element is edited to reflect all spaces by the Navy and Air Force. The Army as an IMM validates this data element for all spaces or a numeric entry. DLA validates this data element for a numeric entry and inserts the current date plus 60 days when found to be invalid. The Navy

and Air Force bypass validation of this data element as WIMMs. The DODSSR validation criteria for this data element consists of a check for spaces or a numeric entry which is greater than the Date of Request, but less than the Date Repair Parts Required.

(5) Date Repair Parts Are Required. The Army and Navy as SICCs validate this data element for a numeric entry. The Navy inserts the current date plus 270 days when an error condition is encountered. The Air Force as a SICC validates this data element for all spaces or a numeric entry and edits the data element to all spaces when an error is found. The Army and DLA as IMMs validate this data element for a numeric entry. The Navy and Air Force as WIMMs bypass validation of this data element. The DODSSR validation criteria for this data element consists of a check for a valid date; i.e, first character equal to 0-9, second thru fourth characters equal to 001-366.

(6) Date of Request. The Army as a SICC and IMM, the Navy as WIMM, and DLA all validate this data element for a numeric entry. The Navy as a SICC automatically generates this data element as the current date plus 14 days for initial submission PDSSR transactions and validates this data element for a numeric entry for PDSSR change transactions. The Air Force automatically assigns a Date of Request as a SICC and as a WIMM validates DOR for an alphanumeric entry not equal to spaces. The DODSSR validation criteria for this data element consists of a check for a valid date; i.e. first character equal to 0-9, second thru fourth characters equal to 001-366.

(7) Document Identifier Code. Each Component validates this data element for a valid code from the IMM Manual. This validation may occur within the SSR Application of the Component or as a means of routing transactions received from many sources to the Component SSR Application. The DODSSR validation criteria provides for bypassing validation of this data element. The reasoning behind this decision was that each transaction was validated for an IMM Manual DIC prior to being placed in the DODSSR data base as explained in Chapter I of this Volume.

(8) End Item Delivery Code. Component validation of this data element differs extensively. The Army as SICC and IMM validates this data element for all 0's or all X's only when the type Change Code equals 'N'; otherwise the data element is bypassed. The Navy as SICC and WIMM validates this data element for all 0's, all X's or numeric with first character equal to 0-9; second character equal to 1, 2, 3, or 4; third and fourth characters equal to 00-99. When an invalid condition is found the Navy edits this data element to all 0's. The Air Force as SICC validates this data element for a numeric entry and edits the field to all 0's when invalid. As a WIMM the Air Force

bypasses validation of this data element. DLA validates this data element for all 0's or a numeric entry with the second character equal to 1, 2, 3, or 4. The DODSSR validation criteria is a check for a numeric quantity with the second character equal to 0, 1, 2, 3, or 4.

(9) <u>End Item Name, NSN, Type, Model Number</u>. This data element is validated to ensure an entry is made and that the entry is left justified by all SICCs, CIMMs and by the Army as a WIMM. The Navy and Air Force as WIMMs bypass validation of this data element. The DODSSR validation criteria checks for a left justified entry.

(10) <u>End Item Quantity</u>. This data element is validated for a numeric entry by all SICCs and IMMs except Air Force who as a WIMM bypasses validation of this data element. DLA performs an additional validation on this data element in that the numeric value must be greater than zero unless the PDSSR reflects TCC equal to V (nonprovisioning). The DODSSR validation criteria calls for a numeric entry in this data element.

(11) <u>FSCM Prime</u>. The Services as SICCs and IMMs validate this data element for an alphanumeric entry with no spaces. Air Force as a WIMM bypasses validation of this data element. DLA validates this data element for a numeric quantity. Due to the alternate usage of this field in the DODSSR data collection as described in Chapter I of this Volume, the DODSSR Validation Criteria allowed for bypassing validation of this data element.

(12) <u>Number of SSRs Enclosed</u>. This data element is generally validated for a numeric quantity. The Navy as SICC does not validate this data element, but mechanically assigns a value to this data element based on the number of valid LISSR transaction added to the SICC SSR Suspense File. The Navy and Air Force as WIMMs bypass validation of this data element; DLA edits this data element to a value of 1 when found to be invalid. The DODSSR Validation Criteria calls for checking for a numeric entry and editing this data element when an invalid entry is encountered.

(13) <u>Percent End Items East</u>. This data element is generally validated for a numeric entry. The Army SICC and IMM validation criteria include a check for a mandatory zero entry when the TCC equals 'N' (initial submittal). The Navy as SICC and WIMM allows an entry of 'XX' as valid and will edit outgoing PDSSRs to a value of '50' when an invalid condition exists. The Air Force as WIMM bypasses validation of this data element. The DODSSR Validation Criteria provides for checking the field for a numeric entry.

(14) Provisioning Control Code. This data element is consistently validated by all Components and as part of the DODSSR Validation Criteria for an alphanumeric entry with no spaces or special characters allowed.

(15) Type Change Code. This data element is generally validated for a valid entry (N/P/V). The Navy and Air Force as SICCs will edit this field to 'N' when an invalid condition exists. DLA includes space as a valid entry, but edits the space to an 'N' when found. The Air Force as WIMM bypasses validation of this data element. The DODSSR Validation Criteria for this data element parallels that of DLA.

(16) Weapons System Code. This data element is validated for a numeric entry or spaces by Army as SICC and IMM, and by Air Force as SICC. Air Force as WIMM bypasses validation of this data element as does Navy as SICC and WIMM. DLA validates this data element for a numeric quantity and edits the field to spaces when invalid. The DODSSR validation criteria for this data element parallels that of DLA.

b. LISSR Transactions

(1) Activity Code From. Validation of this data element is identical to that described in subsection III.C.3.a.(1) above.

(2) Activity Code To. Validation of this data element is identical to that described in subsection III.C.3.(2) above.

(3) Acquisition Advice Code (AAC). Validation criteria for this data element varies widely from Component to Component. The Army as SICC and IMM validates the AAC for a space or an alphabetic entry (except U). The Navy as SICC validates this field for an alphabetic entry, but edits the field to space when invalid or to a value of 'J' when the Retail and Replenishment Quantities are both zero. The Air Force as SICC edits this field to space or if the Retail and Replenishment Quantities are both zero to 'J' without validation. Both the Navy and Air Force as WIMMs bypass validation of this data element. DLA validates this data element for a value of space, D, Z, or J. The DODSSR validation criteria allows for validation of this data element for a value of 'J' when both the retail and replenishment quantities are zero; otherwise the data element is bypassed.

(4) Card Number. This data element is consistently validated by all Components and by the DODSSR validation criteria for a value of '1' or '2.'

(5) Date of Request (DOR). Validation of this data element is identical to that described for PDSSR transactions in subsection III.C.3.a.(6) above.

(6) Date Technical Data to be Supplied (DTDS). This data element is applicable on SICC to CIMM part number LISSR transactions only; therefore, no WIMM validation is required. The Army as a SICC and CIMM bypass validation of this data element. The Navy as a SICC validates this data element for a numeric value and edits the field to spaces when invalid. The Air Force validates this data element for spaces or a numeric value. DLA validates DTDS for a numeric value and edits the field to all 0's when invalid. The DODSSR validation criteria provides for validating this data element for a valid date or spaces.

(7) Demilitarization (Demil) Code. This data element is applicable to inactive NSN, PSCN and Part Number SICC to CIMM LISSR transactions only. All Components and the DODSSR validation criteria provide for validating this data element for a valid code (A-M, except I) with one exception. Army validation calls for this data element to be a space on inactive NSN LISSR transactions. Also Navy as a SICC edits this data element by inserting a value of 'A' when found to be in error.

(8) Document Availability Code (DAC). This data element is applicable to Part Number SICC to CIMM LISSR transactions only. Validation criteria for this data element varies from Component to Component. The Army as SICC and CIMM validates this data element for a value equal to 1-9, A-H. The Navy as SICC validates this data element for a value equal to 1-6, 9, A-H. The Air Force as SICC does no validation of the DAC, but simply edits this field to a value of '5.' DLA validates this data element for a value equal to space, 1-6, 9, A-H and edits the field to space when an error is found. The DODSSR validation criteria parallels that of DLA.

(9) Document Identifier Code (DIC). Validation of this data element is identical to that described for PDSSR transaction in subsection III.C.3.a.(7) above.

(10) FSCM. All Components except DLA validate this data element for an alphanumeric entry with no spaces. DLA validates this data element for a numeric entry. The DODSSR validation criteria bypassed validation of this data element due to an alternate usage of this field related to the DODSSR data collection and described in Chapter I of this Volume.

(11) Interchangeability Code. Validation of this data element varies from Component to Component. The Army, as SICC and IMM, validates this data element for a valid code entry

(NI, OM, OW, TM, TW) when the LISSR transaction TCC equals 'R' or 'S.' The Navy as SICC validates this data element for a valid code entry and edits the field to spaces when an invalid entry is found. The Air Force as SICC validates this data element for a valid code entry when the LISSR TCC equals 'R' or 'S' and edits the field to spaces when errors are found. The Navy and Air Force as WIMMs bypass validation of this data element. DLA provides for editing this field to spaces when an invalid code is submitted. The DODSSR validation criteria calls for validating this data element for a valid code entry when the LISSR TCC equals 'R' or 'S' and for spaces when the LISSR TCC is not 'R' or 'S.'

(12) <u>Item Identification (II) Data Collaborator.</u> This data element is applicable to SICC to WIMM LISSR transactions only. The Army bypasses validation of this data element. The Navy as a SICC validates this data element for an alphanumeric entry with no spaces. The Air Force as a SICC performs no validation of this data element but automatically edits the field to spaces. This data element bypasses validation on a WIMM basis by all Services. The DODSSR validation criteria bypasses validation of this data element.

(13) <u>Item Identification (II) Data Receiver</u>. This data element is applicable to SICC to WIMM LISSR transactions only. Validation of this data element is identical to that described for II Data Collaborator above.

(14) <u>Item Management Code (IMC)</u>. This data element is applicable to SICC to CIMM LISSR transactions only. Validation criteria for this data element varies from Component to Component. The Army as SICC and CIMM validates this data element for an alphanumeric entry (space or special characters excluded). The Navy validates this data element for an entry of D, E, F, H, J, K, L, M, N, O, Q, R, S, T, U, V, W, or Z. The Air Force automatically edits this data element based on ACT (ACT = AZ, IMC = F; ACT = another CIMM activity, IMC = Z). DLA validates this data element for an entry of Z and edits this field to Z when found invalid. The DODSSR validation criteria provides for validating this data element for an entry of 'F' or 'Z.'

(15) <u>Item Serial Number (ISN)</u>. Validation of this data element varies from Component to Component. The Army validates the ISN for no spaces in characters 1 thru 4. The Navy validates the ISN for not all spaces. The Air Force validates this data element for no space in character 1, no imbedded spaces and no special characters. DLA validates ISN for an alphanumeric entry (0-9, A-Z) and position 1 not equal to space. The DODSSR validation criteria parallels that of DLA.

(16) Manufacturers Reference Number. This data element was consistently validated for an entry equal to not all spaces and left-justified by all Components except the Navy and by the DODSSR validation criteria. The Navy as a SICC does not require the entry to be left-justified and as a WIMM bypasses validation of this data element.

(17) Materiel Management Aggregation Code (MMAC). This data element is used only by the Air Force on SICC to WIMM LISSR transactions. It is validated only by the Air Force as a SICC for an alphabetic entry. This data element is bypassed by all other Components and the DODSSR Validation Criteria.

(18) Major Organizational Entity (MOE) Rule. This data element is applicable to SICC to WIMM LISSR transactions only. The Army bypasses validation of this data element except on Part Number LISSR transactions where it is validated for no spaces. The Navy as a SICC validates this data element for an 'N' in character 1 and characters 2 thru 4 alphanumeric. As a WIMM the Navy bypasses validation of this data element. The Air Force validates this data element for an alphanumeric entry with no spaces. The DODSSR validation criteria bypasses validation of this data element.

(19) NSN. This data element is consistently validated by all Components and the DODSSR validation criteria to check for a numeric entry.

(20) PSCN. This data element is generally validated for an alphanumeric (0-9, A-Z) entry. The Navy as a SICC validates this data element for characters 1 thru 6 numeric; character 7 equals to 'P,' 'M,' or 'U'; characters 8 thru 10 alphanumeric and characters 11 thru 13 numeric. DLA validates this data element for characters 1 thru 6 numeric; characters 7 thru 9 equal to 'PAA'; and characters 10 thru 13 numeric. The DODSSR validation criteria provides for validating this data element for an alphanumeric (0-9, A-Z) entry.

(21) Procurement Method Code (PMC). This data element is applicable to inactive NSN, PSCN, and Part Number LISSR transactions. Validation of this data element varies from Component to Component. The Army validates this data element for an entry of space for inactive NSN LISSR transactions; other LISSR transactions are validated for an entry not equal to space. The Navy as SICC validates this data element for a valid code (0-5, A-Z except I, O, X) entry and edits the field to zero when an error is found. The Air Force as SICC validates this data element for an entry of 1, 3, 4, or 5 and edits the field to a value of 2 when an invalid condition is found. The Navy and Air Force as WIMMS bypass validation of this data element. DLA

validates this data element for a value of 0 thru 5. The DODSSR validation criteria ties validation of this data element to validation of Unit Price. The criteria provides for PMC equal to space when Unit Price equals spaces and PMC equal to 0 thru 5 when Unit Price is numeric.

(22) Production Leadtime (PLT). This data element is applicable to inactive NSN, PSCN and Part Number LISSR transactions. Validation criteria for this data element varies from Component to Component. The Army validates this data element for a numeric entry or spaces for inactive NSN and PSCN LISSR transactions. For Part Number LISSR transactions the validation criteria in the Army is a numeric entry greater than zero. The Navy as a SICC validates this data element for a numeric entry and if zero will edit the field to reflect '01.' The Air Force as a SICC validates this data element for a numeric entry and edits the field to reflect a '06' when an invalid condition is encountered. Both the Navy and Air Force as WIMMs bypass validation of this data element. DLA performs a numeric entry validation on this data element and edits the field to '01' when equal to zero or to '15' when the field is greater than 15. The DODSSR validation criteria provides for a numeric entry validation of PLT.

(23) Provisioning Control Code. Validation of this data element is identical to that described for PDSSR transactions in subsection III.C.3.a.(14) above.

(24) Quantity Per End Item. This data element is generally validated for a numeric entry by all Components and the DODSSR validation criteria. The Navy as SICC will edit this data to '0001' when invalid. The Air Force as a WIMM bypasses validation of this data element. DLA validation criteria states the data element value must be numeric and greater than zero.

(25) Reference Number Format Code (RNFC). This data element is applicable to Part Number SICC to CIMM LISSR transactions only. The Army bypasses validation of this data element. The Navy validates this data element for a value of 1 thru 4 and edits the field to 4 when invalid. The Air Force does not validate this data element but simply inserts a '1' in each Part Number LISSR transaction to be submitted to a CIMM activity. DLA validates this data element for a value of space, 1, 2, or 3 and edits the field to space when invalid. The DODSSR validation criteria checks RNFC for an entry of space, 1, 2, 3, or 4.

(26) Reference Number Justification Code (RNJC). This data element is applicable to Part Number SICC to CIMM LISSR transactions only. The Army bypasses validation of this data element. The Navy validates this data element for a value of

space, 1 thru 7 and edits the field to space when invalid. The Air Force does not validate RNJC, but edits the field to space on each applicable transaction. DLA validates the RNJC for an entry of space or 1 thru 7. The DODSSR validation criteria parallels that of DLA.

(27) Reference Number Variation Code (RNVC). This data element is applicable to Part Number SICC to CIMM LISSR transactions only. The Army bypasses validation of this data element. The Navy validates this data element for an entry of 1, 2, 3, or 9. The Air Force does not validate this data element, but inserts a value of '2' in each applicable transaction. DLA validates this data element for an entry of space, 1, 2, 3, or 9 and edits the field to space when invalid. The DODSSR validation criteria for this data element provides for checking this field for a value of space 1, 2, 3, or 9.

(28) Replenishment Quantity. This data element is consistently validated by all Components and the DODSSR validation criteria for a numeric entry. The Air Force as a WIMM bypasses validation of this data element.

(29) Retail Quantity. This data element is consistently validated by all Components and DODSSR Validation Criteria for a numeric entry. The Air Force as WIMM bypasses validation of this data element.

(30) Shelf Life Code. This data element is applicable to inactive NSN and PSCN SICC to CIMM LISSR transactions and to all Part Number LISSR transactions. Validation criteria varies from Component to Component. The Army validates this data element for an entry of space or a valid code (0-9, A-H, J-N, P, Q, R, S, X, Y, or Z). The Navy and Air Force as SICCs validate this data element for an alphanumeric entry and edit this field to zero when invalid. As WIMMs, the Navy and Air Force bypass validation of this data element. DLA validates this data element for an entry of A-H, J-N, P-S, or X. The DODSSR validation criteria for Shelf Life Code parallels that of DLA.

(31) Source Code. This data element is applicable to inactive NSN and PSCN SICC to CIMM LISSR transactions and to all Part Number LISSR transactions. Validation criteria varies from Component to Component. The Army validates this data element for an alphanumeric entry with no spaces. The Navy as SICC validates this data element for a valid code (PA, PB, PC, PD, PE, PF, PG) and edits this field to reflect PA when invalid. The Air Force as SICC validates this data element for an alphanumeric entry and edits this field to reflect PA when invalid. The Navy and Air Force as WIMM bypass validation of this data element. DLA validates Source Code for entry of a valid code. The DODSSR validation criteria for Source Code parallels that of DLA.

(32) Special Material Content Code (SMCC). Validation criteria varies slightly from Component to Component for this data element. The Army validates this data element for an alphabetic entry (except I). The Navy and Air Force as SICCs validate SMCC for an alphabetic entry and as WIMMs bypass validation of this data element. DLA validates this data element for an alphabetic entry (except H). In all cases where this data element is validated by a Component, it is edited to reflect alpha 'O' when invalid. The DODSSR validation criteria for SMCC checks for an alphabetic entry (except I, M, P).

(33) Technical Data Justification Code (TDJC). This data element is applicable to Part Number SICC to CIMM LISSR transactions only. The Army bypasses validation of this data element. The Navy validates this data element for an entry of A thru F or X and edits the field to reflect space when invalid. The Navy automatically edits this field to reflect 'X' when the DAC equals '5.' The Air Force validates this data element for a value of A thru F, X or space. DLA validates this data element for a value of A thru F, X or space and edits this field to reflect space when invalid. The DoDSSR validation criteria reflects that of the Air Force.

(34) Type Change Code (TCC). This data element is generally validated by the Components for a valid code (space, C, D, R, S, T, V). The Air Force as WIMM bypasses validation of this data element. The Navy ties validation of this data element in LISSR transactions to the value of the TCC in the related PDSSR transaction. When the TCC in the PDSSR transaction is 'N,' the TCC in the LISSR transaction must be space. When the PDSSR transaction TCC is 'V,' the TCC in the LISSR transaction must be 'V.' When the TCC in the PDSSR transaction is 'P,' the TCC in the LISSR transaction must be C, D, R, S, or T. The Navy as SICC will edit all LISSR transaction TCCs to space and the associated PDSSR transaction TCC to 'N' when an error condition is found. The DODSSR validation criteria for TCC parallels that of the Navy except for the editing that the Navy performs as a SICC.

(35) Unit of Issue. The Services consistently validate this data element for an alphabetic entry. The Navy as SICC will edit this data element to reflect 'EA' when invalid. The Air Force as WIMM bypasses validation of this data element. DLA validation criteria matches this data element against valid codes contained in the DIDS Procedures Manual. The DODSSR Validation Criteria parallels that of DLA.

(36) Unit Price. This data element is applicable to inactive NSN, PSCN, and Part Number LISSR transactions only. Validation criteria for this data element differs significantly

from Component to Component. The Army validation for inactive NSN and PSCN LISSR transactions checks for a value of spaces or zero. For Part Number LISSR transactions the Army validation looks for a numeric entry greater than zero. The Navy and Air Force as SICCs validate Unit Price for a numeric entry and as WIMMs bypass validation of this data element. DLA validation criteria is tied to the value of the PMC. When the PMC is space, the Unit Price must be spaces; and when the PMC equals 0 thru 5, the Unit Price must be numeric. The DODSSR validation criteria parallels that of DLA.

c. Catalog Transactions. Catalog transactions are made up of Item Name transactions, Additional Reference Number transactions and Additional User transactions. These transactions are submitted from SICC to CIMM only.

(1) Activity Code From (ACF). This data element is validated identically in catalog transactions to the mannér of validation in PDSSR transactions described in subsection III.C.3.a.(1) above.

(2) Activity Code To (ACT). This data element is validated in Catalog transactions exactly the same as it is in PDSSR transactions described in subsection III.C.3.a.(2) above.

(3) Additional Activity Codes. This data element is validated by all the Components except Navy by matching each additional activity code in the Additional User transaction to an activity code table. The DODSSR validation criteria also provides for checking each additional activity code against a table of valid activity codes. The Navy validates this data element for an alphanumeric entry with no spaces.

(4) Date of Request (DOR). This data element is validated by the Army and Air Force by checking for a numeric entry. The Navy validates this data element for a numeric entry when the TCC equals C, D, R, S, or T; otherwise, it is automatically edited to reflect the current date plus 14 days. DLA checks this data element for a valid date (character 1 equal to 0 thru 9, characters 2 thru 4 equal to 001 thru 366). The DODSSR validation criteria parallels that of DLA.

(5) Document Availability Code (DAC). This data element is applicable to Additional Reference Number transactions only. The Army bypasses validation of this data element. The Navy validates this data element for an entry of 1 thru 6, 9 or A thru H. The Air Force does not validate this data element, but automatically edits it to a value of '5.' DLA validates

this data element for an entry of space or 0 thru 9 and edits this field to reflect space when invalid. The DODSSR validation criteria checks this data element for a value of space, 1 thru 6, 9 or A thru H.

(6) Document Identifier Code (DIC). This data element is validated in Catalog transactions exactly as it is in PDSSR transactions described in subsection III.C.3.a.(7) above.

(7) Federal Supply Classification (FSC). This data element is applicable to Item Name transactions only. The Army validates this data element for no spaces. The Navy and Air Force validate this data element for a numeric entry. DLA validates FSC for a numeric entry and also validates the FSC submitted against a table of FSCs managed by the processing Defense Supply Center (DSC). The DODSSR validation criteria provides for a numeric entry check of this data element.

(8) FSCM. This data element is applicable to Additional Reference Number transactions only. The Army validates this data element for no spaces. The Navy validates this data element for an alphanumeric entry containing no spaces or special characters. The Air Force validates this data element for an alphanumeric entry. DLA validates this data element for a numeric entry. The DODSSR validation criteria bypasses validation of this data element due to an alternate usage of this field related to the DODSSR data collection as described in Chapter I of this Volume.

(9) Item Management Code (IMC). This data element is applicable to Additional User transactions only. The Army validates this data element for an entry not equal to space. The Navy validates this data element for an entry equal to D, E, F, H, J, K, L, M, N, O, Q, R, S, T, U, W, or Z. The Air Force automatically edits this data element to reflect 'F' or 'Z' depending on the ACT. DLA validates this field for a value of 'Z' and edits it to reflect 'Z' when invalid. The DODSSR validation criteria provides for validating this data element for an entry of 'F' or 'Z.'

(10) Item Name. This data element is applicable to Item Name transactions only. This data element is consistently validated for an alphanumeric, left-justified entry by all Components and the DODSSR validation criteria.

(11) Item Serial Number (ISN). Validation criteria for this data element for Catalog transactions is identical to the criteria for ISN in LISSR transactions described in subsection III.C.3.b.(15) above.

(12) <u>Manufacturers Reference Number</u>. This data element is applicable to Additional Reference Number transactions only. Validation criteria for all Components and the DODSSR validation criteria is a left-justified entry not all equal to spaces.

(13) <u>Provisioning Control Code (PCC)</u>. This data element is validated in Catalog transactions exactly the same as it is in PDSSR transactions described in subsection III.C.3.a.(14) above.

(14) <u>Reference Number Category Code (RNCC)</u>. This data element is applicable to Additional Reference Number transactions only. The Army bypasses validation of this data element. The Navy validates this data element for an entry of 1 thru 8, or A thru D and edits this field to reflect '3' when invalid. The Air Force does not validate this data element, but automatically edits it to reflect '3' whenever it appears. DLA validates this data element for an entry of space, 1 thru 5, or A thru D and edits the field to reflect space when invalid. The DODSSR validation criteria provides for validating the RNCC for an entry of space, 1 thru 8 or A thru D.

(15) <u>Reference Number Format Code (RNFC)</u>. This data element is applicable to Additional Reference Number transactions only and is validated here using the same criteria described in subsection III.C.3.b.(25) above.

(16) <u>Reference Number Variation Code (RNVC)</u>. This data element is applicable to Additional Reference Number transactions only and is validated here using the same criteria described in subsection III.C.3.b.(27) above.

(17) <u>Type Change Code (TCC)</u>. This data element applies to Item Name transactions only and is validated using identical criteria to that described in subsection III.C.3.b.(34) above except for Army. Army validates this data element in item name transactions for an entry of space, T, or V.

d. <u>Line Item Advice Card (LIAC) Transactions</u>. Line item advice card transactions include advice transactions, offer reply transactions, followup transactions and followup response transactions. As discussed in the section on validation conventions, the automated SSR Applications of the Components are designed to generate some of these LIACs when conditions permit or as a result of file maintenance transactions, and these automatically generated transactions are not mechanically validated. The discussion here is keyed to LIAC transactions either manually generated and input to the Component SSR Application or received from another activity via mail or AUTODIN.

(1) Action Taken Code (ATC). This data element is found on all LIAC transactions except followup transactions. Validation of this data element varies significantly from Component to Component. The Army validates this data element for a valid ATC. Valid ATCs in the Army include not only the codes contained in the IMM Manual, but also several Army unique ATCs. The Navy as SICC bypasses validation of this data element and as WIMM validates it for an entry with no spaces. The Air Force as SICC validates the ATC for an alphanumeric entry and as WIMM examines this field for a valid code from the IMM Manual. DLA bypasses validation of this data element. The DODSSR validation criteria is much more extensive than those described above. This criteria first checks for a valid ATC from the IMM Manual then goes on to key specific validations to the DIC and other data elements. This additional criteria is as follows:

* When the DIC is CX1 (advice transaction), the ATC cannot be '66.'

* When the DIC is CX1 or CX4 (followup response transaction) and the ATC is YA, YJ, YL, YR, YU, 33 or 34, validate the NSN field for a numeric entry.

* When the DIC is CX1 or CX4 and the ATC is YW, validates the PSCN field for an alphanumeric (0-9, A-Z) entry.

* When the DIC is CX1 or CX4 and the ATC is YQ, validate the Manufacturer Reference Number field for an entry not equal to all spaces.

* When the DIC is CX1 or CX4 and the ATC is YC or 60, validate the FSC field for a numeric entry.

* When the DIC is CX1 or CX4 and the ATC is YA, YL, or YQ, validate the YX date field for entry of spaces or a valid date (character 1 equals 0-9, characters 2-4 equal 001-366).

* When the DIC is CX1 or CX4 and the ATC is YX, validate the YX date field for a valid date.

* When the DIC is CX2, the ATC must equal YM, YN, YP or YV.

(2) Activity Code From (ACF). This data element is generally validated by all Components and the DODSSR validation criteria by matching the ACF to a table of valid activity codes or in the case of outgoing LIAC transactions matching the ACF to the activity code of the processing activity. The Navy as SICC, and DLA bypass validation of this data element.

(3) Activitiy Code To (ACT). This data element like ACF is generally validated by all Components and the DODSSR validation criteria by matching the ACT to a table of valid activity codes or in the case of incoming LIAC transactions matching the ACT to the activity code of the processing activity. The Navy as SICC bypasses validation of this data element.

(4) Date of Advice (DOA). The Army and Air Force validate this data element for a numeric entry. The Navy as SICC and DLA bypass validation of this data element. The Navy as WIMM does not validate this data element, but automatically edits the field to reflect the current date. The DODSSR validation criteria validates this data element for a valid date (character 1 equal 0-9, characters 2-4 equal 001-366).

(5) Date of Request (DOR). The Army validates this data element for a numeric entry. The Navy as SICC bypasses validation of the DOR and as WIMM validates this data element for a numeric entry. The Air Force as SICC validates this data element for a numeric entry and as WIMM bypasses validation of the DOR. DLA bypasses validation of this data element. The DODSSR validation criteria provides for checking the DOR for entry of a valid date.

(6) Document Identifier Code (DIC). This data element is consistently validated by all Components for entry of a valid code. The DODSSR validation criteria bypasses validation of this data element because the DIC was used as a control for entry into the DODSSR data base as described in Chapter I of this Volume.

(7) FSCM. Validation of this data element is tied to the ATC. Generally, when the ATC is YQ and the Manufacturers Part Number is not spaces this data element is validated for an alphanumeric entry. The Navy and DLA bypass validation of this data element. The DODSSR validation criteria bypasses validation of this data element due to the special usage of this field related to the data collection described in Chapter I of this Volume.

(8) Item Serial Number (ISN). Validation of this data element varies significantly from Component to Component. The Army validates this data element for no space in characters 1 thru 4. The Navy bypasses validation of ISN as a SICC and as a WIMM validates it for an entry not equal to all spaces; the Air Force validation checks character 1 for an entry not equal to space or a special character as a SICC and bypasses validation of this data element as a WIMM. DLA bypasses validation of this data element. The DODSSR validation criteria checks for an alphanumeric entry which is not equal to all spaces.

(9) NSN/PSCN/Manufacturers Reference Number. The Army and Air Force key validation of this multiple use field to the ATC. When the ATC is YA, YJ, YL, YR, YU, 33, or 34 a numeric check is made for entry of an NSN. When the ATC is YW, an alphanumeric check is made for entry of a PSCN. When the ATC is YQ, an alphanumeric check is made for entry of a Manufacturers Part Number. The Navy and DLA bypass validation of this data element. The DODSSR validation criteria for this multiple use field parallels that of the Army and Air Force, and was described under ATC validation above.

(10) Provisioning Control Code (PCC). The Army validates this data element for an entry not equal to spaces. The Navy as a WIMM validates this data element for an alphanumeric entry. The Navy as SICC, the Air Force and DLA all bypass validation of this data element. The DODSSR validation criteria validates PCC for an alphanumeric entry.

(11) Type Change Code (TCC). Validation of TCC in LIAC transactions is bypassed by all Components and the DODSSR validation criteria except for Air Force as a SICC. The Air Force as SICC validates TCC for an entry of space or 'V' and edits the field to reflect space when invalid.

(12) YX Date/FSC. This data element is validated for spaces or a numeric entry by the Army and Air Force. The Navy and DLA bypass validation of this data element. The DODSSR Validation Criteria relating to this data element is keyed to the ATC as described in the ATC validation above.

4. Automated Edit/Validation Analysis

a. Validation Conventions

Each of the Components have designed their automated SSR Applications with validation performed in multiple program modules. Generally, a program module dedicated to SSR validation at the package level, duplicate level and detail level exists. Match/duplicate validations are generally imbedded in an SSR file maintenance program module. The PCC package validations and LISSR package validations are generally consistent from Component to Component.

Duplicate/match validation criteria varies significantly from Component to Component. The variation in duplicate validation criteria lies in two areas. First, the type of duplicate validation total card or control data element or both varies from Component to Component. In addition, when control

data element validation is done, some Components use different control data elements than others. This may result in submission of unique transactions from a SICC standpoint, but duplicative transactions from an IMM standpoint.

The variance in the match criteria is primarily due to the difference in transactions posted to the Component SSR Suspense Files. For example, the Army system design calls for matching all SSR change transactions by control elements against their SSR Suspense File as part of their validation of these transactions and posts these transactions to the SSR Suspense File. DLA, on the other hand, does not match these SSR change transactions to its SSR Suspense or SSR History Files, does not process these transactions on an automated basis (except for superceding items), and does not post these transactions to the automated SSR Suspense or SSR History Files (except again superceding items which are processed as initial submittals). Evidently the IMM Manual does not clearly point out the specific match/duplicate validations that should be performed by all Components although it does provide the means (in terms of some ATCs) to indicate when duplicates are found or matches do not exist.

All the Components sort transactions input to their automated system prior to validation. This sort is based on control elements contained in the SSR transactions and include ACF, ACT, PCC, DOR, ISN, DIC, TCC and Card Number. Most of the Components establish a sort key or other control area and append this to the SSR transaction either at the beginning as DLA or at the end as Air Force. This information is appended to these transactions for two reasons. First, these data elements are located in various positions in the SSR transaction; e.g., ACT is in positions 4 and 5 while ACF is located in positions 67 and 68. Second, these data elements are not located in the proper sort sequence or for that matter in the proper sequence for entry into automated files. If these data elements were located in contiguous positions and in the proper sequence, it would not eliminate the sort process itself; however, it would insure that all Components are validating these transactions in the same sequence and in some SSR Applications would eliminate the requirement for a separate program module to establish this sort key as the first step of SSR processing. The practice of placing control elements together in a specific area in each transaction has been used in other DoD programs such as the Document Control Number specified in the DIDS Procedures Manual (Appendix D, Reference 25) and the Document Number used in Materiel Requisitions and specified in the MILSTRIP Manual (Appendix D, Reference 32).

There are distinct differences in which SSR transactions are posted to the SSR Suspense Files of each Component. These differences are evident from the systems descriptions in

Volume II and from the discussion of validation conventions above. These differences range from the posting of valid transactions only to the Component SSR Suspense File to posting of all transactions whether valid or invalid to the Component SSR Suspense File. The differences also range from posting all types of SSR transactions to the Component SSR Suspense File to posting of initial submittal and superceding item SSR transactions only. This inconsistency in file posting makes comparable audit trails for SSR transactions impossible and may cause extensive time delays in SSR processing. For example, an SSR transaction is submitted to an IMM, validated and rejected based on a validation error. Because the transaction was in error, it is flushed from the IMM's automated system and not posted to the SSR Suspense File. If for some reason, the SICC does not receive the reject advice transaction or receives it beyond the followup time, the SICC generates a followup to the IMM which is automatically processed and assigned an ATC of '66' (No Record). When the followup response is received by the SICC a resubmittal will be generated and submitted to the IMM only to be rejected for the same error as the original submission. It is easy to see how some of the extended time frames described in Chapter I of this Volume can occur, simply because rejected SSR transactions are not posted to the Component SSR Suspense File. The IMM Manual should provide guidance as to what transactions should be maintained in automated SSR Suspense Files, the control data elements to be used for sequencing and retrieval, and the type of audit trail that should be maintained for each item.

The concept of single vs. multiple error validation was found to be part of Navy and Air Force validation design. The extent to which multiple errors occur has a direct bearing on this concept and was explored as part of the validation of the DODSSR data base. The results of this validation is discussed below.

b. Data Element Validation Criteria

The enumeration of the validation criteria designed into each of the Component automated systems on a data element basis reveals some interesting concepts. First, most data elements described as "control" data element and "key" data elements are validated consistently by all Components. These data elements are generally those required for processing of SSR transactions and include DIC, ACF, ACT, PCC, Card Number, NSN, Replenishment Quantity, Retail Quantity, Item Name, FSC and Manufacturers Reference Number. Three additional data elements which fall into this category, but are not validated are DOR, ISN, and TCC. The DOR is generally mechanically assigned on outgoing SSR transactions and is validated for a numeric value on incoming SSR transactions. The validation of ISN varies to a

larger extent from Component to Component and it may be easily seen how this inconsistency in validation criteria can cause rejects of SSR transactions. The validation of TCC in PDSSR transactions is relatively consistent for all Components; however, for LISSR transactions this data element is validated for a valid entry by some Components while others tie the validation to the TCC of the associated PDSSR transactions.

Other data elements are validated and edited when found invalid or simply edited to a specific value without validation. Data elements included in this category include Interchangeability Code, Source Code, IMC, SMCC, Reference Number Category Code, Reference Number Format Code, Reference Number Justification Code, Reference Number Variation Code, Technical Data Justification Code, and Date NSNs are Required. Because of the extensive amount of editing performed on these data elements, SSR transactions should not be rejected for errors in these data elements, and depending on usage, these data elements should be considered for elimination. The IMC and Date NSNs are Required are examples of two data elements in this category which should be eliminated.

The IMC is required by the IMM Manual in SICC to CIMM LISSR transactions and is edited when invalid by DLA. This data element was an addition to the SSR procedures with the implementation of the IMM Manual. The procedures in effect prior to 1 May 1978 did not contain IMC as a data element and each SSR transaction was considered an IMC transaction also. This procedure should apply to the IMM Manual considering that within the DoDSSR data base this data element was found to be invalid in only 0.5% of the transactions in which it is required.

The Date NSNs are Required is used when NSNs for Part Number SSRs are required in less than 60 days. This data element is edited when invalid by three Components. Validation of this data element in the DODSSR data base revealed that an entry was made in only 5.2% of all PDSSR transactions and was invalid in 63.1% of the transactions containing an entry. In addition, Chapter I of this Volume indicated the average time entered in this data element (when valid) is 55 days. The usefulness of this data element is questionable when considering these factors. The differences in the percentages expressed here and those shown in Chapter I of this Volume are due to sample size and validation criteria applied.

A third category of data elements are those which are not validated, but bypassed. These include Item Identification Data Collaborator, Item Identification Data Receiver and

Materiel Management Aggregation Code. These data elements are limited to SICC to WIMM SSR transactions. The use of these data elements should be reviewed to determine their potential for elimination from the SSR procedures.

The remaining data elements have validation criteria which varies from Component to Component. These data elements are reviewed in terms of their individual errors rates from validation of the DODSSR data base below.

D. DODSSR DATA BASE VALIDATION

1. General

This section discusses the DODSSR validation conventions and the application of the DODSSR validation criteria to the DODSSR data base. The DODSSR validation criteria although applied in a five-level structure as discussed above contains more than five actual levels. The additional levels are a finer breakout of the detail data element validation level. These additional levels accommodate the mandatory data element, conditional data element, and optional data element distinction made by the IMM Manual; while retaining the package, duplicate, control data element and key data element levels used by the Components. The PCC package, LISSR package and duplicate validation levels were described above in the validation conventions paragraph. The particular data elements within each other level of the DODSSR validation criteria are listed here.

a. Control Data Elements (Mandatory)

* Activity Code From
* Activity Code To
* Document Identifier Code
* Date of Request
* Item Serial Number
* Provisioning Control Code

b. Key Data Elements (Mandatory)

* FSCM
* Manufacturers Reference Number
* NSN
* Procurement Method Code
* PSCN
* Unit of Issue
* Unit Price

c. Other Mandatory Data Elements

* Action Taken Code
* Additional Activity Code
* Card Number
* Contract Control Number
* Date of Advice
* Date Repair Parts Required
* Demilitarization Code
* End Item Delivery Code
* End Item NSN, Name, etc.
* End Item Quantity
* Federal Supply Classification
* Item Management Code
* Item Name
* Number of SSRs Enclosed
* Percent End Items East
* Production Leadtime
* Quantity Per End Item
* Replenishment Quantity
* Retail Quantity
* Shelf Life Code
* Source Code
* Special Material Content Code
* Type Change Code

d. Conditional Data Elements

* Acquisition Advice Code
* Date Technical Data to be Supplied
* Document Availability Code
* Interchangeability Code
* Item Identification Data Collaborator
* Item Identification Data Receiver
* Materiel Management Aggregation Code
* Reference Number Category Code
* Reference Number Format Code
* Reference Number Justification Code
* Reference Number Variation Code
* Technical Data Justification Code

e. Optional Data Elements

* Date NSNs are Required
* Weapons System Code

The DODSSR Validation Criteria provides for validation of each data element listed above with each data element assigned a separate reject code except for those data elements contained in the edit portion. Several data elements due to their apparent

validation and usage by the Components were selected to produce editing statistics rather than validation reject statistics. These "edited" data elements are listed below with their respective level in parentheses.

* Item Management Code (Other Mandatory)
* Number of SSRs Enclosed (Other Mandatory)
* Special Material Content Code (Other Mandatory)
* Date Technical Data to be Supplied (Conditional)
* Document Availability Code (Conditional)
* Item Identification Data Collaborator (Conditional)
* Item Identification Data Receiver (Conditional)
* Interchangeability Code (Conditional)
* Materiel Management Aggregation Code (Conditional)
* Reference Number Category Code (Conditional)
* Reference Number Format Code (Conditional)
* Reference Number Variation Code (Conditional)
* Technical Data Justification Code (Conditional)
* Date NSNs are Required (Optional)
* Weapons System Code (Optional)

The validation of the DODSSR data base was designed, developed and executed to determine at what validation level the majority of errors were occurring; which data elements were causing the most error conditions; and whether these levels or data elements changed after the IMM Manual had been implemented and used for several months. This section first discusses the results of validating PDSSR, LISSR, and catalog transactions in the DODSSR data base. This is followed by a discussion of LIAC Validation Rejects, Multiple Validation Considerations and differences in validation rejects from stratified populations.

2. PDSSR, LISSR, and Catalog Transaction Validation Reject Analysis

The validation error percentages by Service are shown in Figure III-1. The first column represents the invalid data error volumes actually experienced for the Steady State Period Population and presented in Chapter I of this Volume, Figure I-57. The second column shows the error volumes experienced by each Service as a result of the DODSSR validation criteria.

Note the general consistency in percentages for each Component (except Navy) between the two sets of error volumes. This same consistency is present on an activity basis except at ASO, and indicates that applying the DODSSR validation criteria to the DODSSR data base reflects the volumes and types of errors actually being experienced in the System. The higher percentage in the Navy is attributable to ASO where a higher percentage of PCC package errors was identified by the DODSSR Validation than was apparent from the Data Collection. This difference in volume of PCC package errors identified is primarily due to the manual corrections of package errors at some IMM activities and the nonsubmittal of certain PCC package errors to the study team during the Data Collection

period. These PCC package errors are identified by ATC '51' (Valid PDSSR, no LISSRs) and are not returned in a reject advice transaction by DLA, but by a mailed listing on which ATC '51' has been annotated.

VALIDATION ERROR VOLUMES BY SERVICE
LISSR TRANSACTIONS COLUMN PERCENT

SICC	Error Volumes Experienced	DODSSR Validation Error Volumes
Army	17.5	17.8
Navy	30.6	43.0
Air Force	30.4	26.7
Marine Corps	8.5	4.2
Coast Guard	1.0	0.8
Other	12.0	7.5

Source: DODSSR Data Collection; Steady State Period Population

Figure III-1

a. Validation Level Analysis. The validation error volumes by level for all SSR transactions are shown in Figure III-2.

VALIDATION ERROR VOLUMES BY LEVEL
(All DICs)

Validation Level	Percent Error
PDSSR Package	36.3
LISSR Package	6.0
Duplicate	31.4
Control Data Element	1.4
Key Data Element	6.8
Other Mandatory Data Element	17.3
Conditional Data Element	0.8

Source: DODSSR Data Collection; Main Population

Figure III-2

This figure shows that 85% of the errors are located in three levels. The PCC package validation level, duplicate validation level and other mandatory data element validation level. As discussed above the volume of duplicate errors is artifically high and will therefore not be discussed further. Also, many of these duplicate errors are for LIAC transactions which are not routinely validated prior to submittal. However, as seen in the discussion of validation criteria above, the Components subject PDSSR, LISSR, and Catalog transactions to extensive validation prior to submission in their automated systems design. The validation error

VALIDATION ERROR VOLUMES BY DIC
ROW PERCENT

DIC 1/ \ Validation Level		PCC Package	LISSR	Dupli-cate	Control Elements	Key Elements	Other Manda-tory	Condi-tional Elements	Total
PDSSR Transactions	CWA	64.7	0.0	16.1	1.6	0.0	17.6	0.0	100.0
	WWA	77.2	0.0	9.6	0.9	0.0	12.3	0.0	100.0
LISSR Transactions	CXA	48.1	0.0	5.5	0.9	14.0	29.5	2.0	100.0
	CXB	63.2	17.2	8.0	2.0	6.5	2.1	1.0	100.0
	CXC	40.7	0.0	0.0	4.1	21.4	33.8	0.0	100.0
	WXA	42.5	0.0	2.5	0.5	7.9	45.7	0.9	100.0
	WXB	33.4	17.8	0.6	0.3	0.8	47.1	0.0	100.0
Catalog Transactions	CXF	52.5	20.9	6.4	4.2	0.0	16.0	0.0	100.0
	CXG	28.5	22.7	48.2	0.6	0.0	0.0	0.0	100.0
	CXK	36.5	18.9	39.4	3.4	0.0	1.8	0.0	100.0

Source: DODSSR Data Collection; Main Population

1/ DIC WXC is not shown because there are none in the data base. LIAC DICs will be discussed separately.

Figure III-3

volumes by DIC for each validation level are shown in Figure III-3. From this figure, it is clear that the high error volumes are occurring in the package, duplicate and other mandatory data element validation levels. The percent of key data element errors for CXA/CXC transactions is also significantly high.

(1) PDSSR Transactions. As shown in Figure III-3 the major contributor to errors in PDSSR transactions is the package validations performed. The zero percentages at the LISSR package, key data element and conditional data element validation levels is not surprising. LISSR package validation does not apply to PDSSR transactions and these transactions contain no key data elements or conditional data elements to validate. Examination of validation levels by Components and activity reveals the same pattern of error volumes for PDSSR transations.

(2) LISSR Transactions. Figure III-4 shows the validation error volumes by Component for all LISSR transactions. As shown by this figure, all Components have high percentages in the PCC package category; however, the errors in the Navy are predominated by the PCC package level. The Army has significant error volumes at the LISSR package and key data element validation levels as well as the PCC package validation level. The other mandatory data element validation level contains the largest percentage of errors in the Air Force with PCC package errors and key data element error volumes showing significant percentages. The Marine Corps has the majority of its errors in the PCC package, LISSR package and other mandatory data element validation levels. The Coast Guard shows errors primarily in the PCC package and other mandatory data element validation levels.

VALIDATION ERROR VOLUMES BY COMPONENT
LISSR TRANSACTION COLUMN PERCENT

Component / Validation Level	Army	Navy	Air Force	Marine Corps	Coast Guard
PCC Pacakage	37.7	79.3	34.4	42.0	50.1
LISSR Package	21.2	4.4	3.0	13.8	0.0
Duplicates	3.5	7.9	6.7	2.2	0.7
Control Elements	1.7	0.9	0.1	6.7	0.7
Key Elements	26.0	2.9	14.7	7.8	2.9
Other Mandatory	6.0	3.1	41.1	19.3	43.2
Conditional Elements	3.9	1.5	0.0	8.2	2.4
Total	100.0	100.0	100.0	100.0	100.0

Source: DODSSR Data Collection; Main Population

Figure III-4

(3) Catalog Transactions

Validation error volumes by Service for catalog transactions is shown in Figure III-5. This figure again shows the predominance of errors in the package validation levels. The high incidence of duplicate errors in the Army and Air Force is primarily due to the DODSSR validation criteria as explained above. Note the high percentage of other mandatory data element errors in the Navy in Figure III-5.

VALIDATION ERROR VOLUMES BY COMPONENT
CATALOG TRANSACTIONS COLUMN PERCENT

Validation Level \ Component	Army	Navy	Air Force	Marine Corps	Coast Guard
PCC Package	23.4	56.7	57.5	59.1	54.3
LISSR Package	23.8	16.7	24.6	17.4	40.0
Duplicates	51.7	4.8	17.0	6.1	4.0
Control Elements	0.8	1.3	0.5	13.6	1.3
Key Elements	0.0	0.0	0.0	0.3	0.0
Other Mandatory	0.3	20.5	0.4	3.5	0.4
Conditional Elements	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0

Source: DODSSR Data Collection; Main Population.

Figure III-5

The LISSR package errors and other mandatory data element errors for catalog transactions in the Navy are 97.8 percent SPCC errors. During the data collection, the outgoing SSR Application in the Navy had been implemented by ASO, but not by SPCC. When this application is implemented by SPCC, these errors should be greatly reduced. This figure also indicates the Marine Corps has 13.6% of its errors in control data elements. The majority of the 17.4% LISSR package errors are probably a direct follow-on of these control data element errors.

From this validation level analysis, the volume of errors found occur at four validation levels - PCC package, LISSR package, key data element and other mandatory data element. The specific data element error codes must be examined to determine exactly which data elements are causing these errors.

b. Validation Reject Code Analysis

The frequency of occurrence for reject codes shows which error conditions/data elements are causing the majority of

errors. The reject codes are not shown here, however, the error condition/data element found in error and the relative volume expressed as a percentage are listed below.

* LISSR transactions or Catalog transaction package error - 39.7%
* Duplicate transaction (except PDSSR transactions) - 30.8%
* Procurement Method Code - 5.6%
* Demilitarization Code - 3.1%
* Production Leadtime - 3.0%
* Shelf Life Code - 3.0%
* Source Code - 1.6%
* Action Taken Code - 1.5%
* Valid PDSSR/No LISSR - 1.5%
* PDSSR package - 1.0%

Note that while all package errors appear as significant error percentages, no control data elements and only one key data element (PMC) appear. This result is consistent with the results from Chapter I of this Volume. The top ten reject codes in Chapter I of this Volume included three reject codes from the invalid data category. These reject codes indicated PCC package errors, LISSR package errors and Unit Price errors; i.e., package errors and one key data element. The results are consistent even in the key data element error because the validation of PMC and Unit Price is tied together both by DLA and in the DODSSR validation criteria. This error condition occurs because the presence or absence of these data elements is used by DLA to distinguish between active NSN LISSR transactions and inactive NSN LISSR transactions. Unit Price appeared in Chapter I of this Volume, while PMC appeared in the DODSSR validation simply because of the sequence of validation of these data elements and how the resulting error condition is expressed.

When the reject code percentages are viewed from a Component basis, the data elements causing the high percentages in the validation levels discussed earlier become readily apparent. Validation errors constituting over 1% of the volume of errors by Service are shown in Figure III-6.

The only PDSSR error appearing significant overall is package errors due to the low volume of PDSSR transactions as compared to the volume of LISSR transactions. Therefore, an analysis of PDSSR transaction errors alone must be made to determine the PDSSR data elements causing errors. A review of PDSSR reject codes shows that almost 60% of the PCC package errors encountered for PDSSR transactions are valid PDSSR transactions without any valid LISSR transactions. Also only 8.2% of the PDSSR transactions having data elements in error, had one or more control data element errors. The remainder (about 92%)

had other mandatory data elements in error of which DRPR and End Item NSN, Name, etc., were the leading data elements with 28.7% and 22.9%, respectively. Of the about 40% PDSSR transaction errors due to duplicates and/or data element errors 68.6% were data element errors. The implementation of the automated SSR Applications should improve the valid PDSSR/invalid LISSR problem encountered. The use of the Other Mandatory data elements in PDSSR transactions must be reviewed to determine if these elements may be eliminated or edited to reduce the number of errors occurring at this validation level.

VALIDATION ERRORS BY ERROR CODE
SERVICE COLUMN PERCENT

SICC / Validation Error	Army	Navy	Air Force	Marine Corps
LISSR Transaction Package	50.0	77.4	30.4	52.0
Duplicate (Non-PDSSR)	24.4	9.2	23.8	3.3
Procurement Method Code	11.9	2.4	10.6	3.1
PDSSR/No LISSR	2.2	1.0	2.0	2.6
Invalid PDSSR	1.7	1.2	1.0	1.9
Acquisition Advice Code	1.5	-	-	6.5
Source Code	1.2	1.9	2.1	7.9
Item Name	-	1.1	-	-
Federal Supply Classification	-	1.1	-	-
Demilitarization Code	-	-	9.6	1.2
Production Leadtime	-	-	9.4	1.7
Shelf Life Code	-	-	9.4	1.4
Item Serial Number	-	-	-	3.1
Date of Advice	-	-	-	2.3
Unit of Issue	-	-	-	2.0
Quantity Per End Item	-	-	-	1.2
PDSSR Duplicate	-	-	-	1.0
Total	92.9	95.3	98.3	91.2

Source: DODSSR Data Collection; Main Population

Note: In this Figure "-" indicates less than 1.0%.

Figure III-6

The high number of key data element errors in LISSR transactions is due to Procurement Method Code which ranks third in terms of error percentage behind package and duplicate errors in the Army, Navy and Air Force; and ranks sixth in tne Marine Corps. Source Code also provides a significant percentage of errors, and in the Marine Corps, this other mandatory data element ranks second behind package errors. In the Air Force the significant number of errors for LISSR transactions at the other mandatory data element validation level is due to three data elements

(Demilitarization Code, Production Leadtime and Shelf Life Code) each of which have error percentages in the 9-10% range in the Air Force.

The volume of other mandatory data elements causing the significant volume of errors in Navy Catalog transactions are Item Name and FSC both of which appear in Item Name transactions (DIC = CXF). The significant percentage of control data element errors for catalog transactions in the Marine Corps is apparently due to Item Serial Number errors which ranks fifth in this Service. The volume of errors for these data elements in these Services is probably due to the manual processing performed by these Services and the lack of automated validation during the data collection period.

All error conditions identified within the DODSSR validation criteria for PDDSR, LISSR and catalog transactions were found within the DODSSR data base; however, seven error conditions had volumes less than 0.1%. One control data element (Activity Code To) fell in this category. Two key data elements (Manufacturers Reference Number and Permanent System Control Number) fell into this category. The other four error conditions are for other mandatory data elements and include Type Change Code, Additional Activity Code on an Additional User transaction, Replenishment Quantity and the Retail/Replenishment combination.

c. Edited Data Elements

Certain data elements were selected for editing in the DODSSR validation criteria rather than strict validation and assignment of a reject code. These data elements were not actually edited or changed by the validation criteria, but counts were made of the number of times the data element was blank, how many times it was valid, and how many times it was in error. Each of these data elements will be discussed in turn.

(1) Number of SSRs Enclosed. This data element was found to be invalid in 0.2% of all PDSSR transactions and 74.2% of these invalid entries were blank.

(2) Item Management Code. This data element was found to be invalid in only 0.5% of the transactions in which it is required.

(3) Special Material Content Code. This mandatory data element was invalid in 31.7% of the LISSR transactions in which it is required. In addition, 98.5% of the invalid entries were spaces.

(4) Item Identification Data Receiver. This data element is to be used in Army and Navy WIMM transactions only.

The Navy is allowed to enter two Item Identification Data Receivers while the Army is allowed one entry. An entry was made for the first Item Identification Data Receiver in each case. The Navy placed a second entry in 14.8% of its WIMM LISSR transactions.

(5) Item Identification Data Collaborator. This data element is similar in use to the item identification data receiver above and the actual usage for the first occurrence is identical; however, a second entry was required only 5.6% of the time by the Navy for this data element.

(6) Materiel Management Aggregation Code. This data element is unique to the Air Force and appeared in 11.8% of this Service's WIMM LISSR transactions.

(7) Interchangeability Code. This data element was found to be invalid in 0.1% of all LISSR transactions.

(8) Reference Number Format Code. This data element was found to contain an invalid entry in 0.2% of the applicable SSR transactions and was left blank 10.6% of the time.

(9) Reference Number Category Code. This data element was left blank in 9.8% of the applicable SSR transactions and was invalid in less than 0.1% of these transactions.

(10) Reference Number Variation Code. This data element was left blank in 9.9% of the applicable SSR transactions and was invalid in 0.2% of these transactions.

(11) Document Availability Code. This data element contained an invalid entry in 3.0% of the applicable transactions and was left blank 9.9% of the time.

(12) Date Technical Data To Be Supplied. This data element was left blank 95.3% of the time and contained an invalid entry in 0.1% of the applicable SSR transactions.

(13) Technical Data Justification Code. This data element was left blank in 64.0% of the applicable SSR transactions and was invalid in less than 0.1% of these transactions.

(14) Date NSNs Required. The results for this data element were discussed above.

(15) Weapons System Code. This data element contained an entry in 7.1% of PDSSR transactions and was invalid in 6.3% of the PDSSR transactions containing an entry.

Except for SMCC, DTDS, TDJC and Date NSNs are Required, the low percentage of errors in conjunction with the

extensive amount of editing and bypassing of validation for these data elements indicated that each of these data elements should be reviewed for elimination or at the minimum editing; i.e., an SSR transaction should not be rejected for an invalid condition in any of these data elements. The same is true for the four data elements mentioned above. The SMCC is edited by each Component when found to be invalid. Since it was found to be invalid in over 30% of the transactions in which it is required the relative utility of this data element is questionable. An invalid entry in Date Technical Data to be Supplied also should not cause rejection due to the low error rate and the minimal usage of this data element. This is also true of Technical Data Justification Code. The relative use and usefulness of the Date NSNs are Required was discussed above in the Automated Edit/Validation Analysis section.

3. LIAC Validation Reject Analysis

LIAC rejects are dominated by duplicate errors. This domination is due to the eight month cycle covered by the data collection and is illustrated by Figure III-7. It is important to note that these duplicate transactions are not all invalid, but appear to be invalid due to this eight-month cycle. The transactions in error shown here are primarily offer reply and followup transactions for the Services, and advice and followup response transactions for DLA and GSA. Figure III-7 indicates that while the Services and GSA have the majority of their errors appearing in the control data element and other mandatory data element validation levels, DLA shows significant error volumes in the key data element and other mandatory data element validation levels.

VALIDATION ERROR VOLUMES FOR LIAC TRANSACTIONS
COMPONENT COLUMN PERCENT

Component / Validation Level	Army	Navy	Air Force	Marine Corps	DLA	GSA
PCC Package 1/	-	-	-	-	-	-
LISSR Package 1/	-	-	-	-	-	-
Duplicate	36.5	91.3	97.8	28.4	76.6	84.2
Control Element	14.3	5.1	0.3	6.1	0.8	4.7
Key Element	0.7	-	-	-	3.5	0.4
Other Mandatory	48.5	3.6	1.9	65.5	19.1	10.7
Conditional Element 1/	-	-	-	-	-	-

Source: DODSSR Data Collection; Main Population

1/ PCC Package, LISSR Package, and Conditional Data Element errors do not occur for LIAC Transactions.

Figure III-7

Since specific error codes are not broken out by type transaction the Service volumes in these validation levels cannot be analyzed separately from other SSR transactions. However, since almost all of DLA's transactions and all of GSA's transactions are advice and followup response transactions, specific error codes may be analyzed for these Components.

When specific error codes are analyzed for DLA, a single key data element predominates the errors at this level with 3.3% of the total errors. An NSN is required in advice transactions or followup response transactions when certain Action Taken Codes are used. The appearance of a significant error rate for this data element also validates the complaint made by some activities during the field research that DLA does not always provide an NSN in LIAC Transactions when required by the IMM Manual. Other mandatory data elements causing the volumes of error at this level for DLA include Date of Advice and Action Taken Code. 11.8% of DLA transactions in error contained an invalid Date of Advice and 6.2% contained an invalid Action Taken Code. During the data collection DLA encountered an internal system problem where an internally used ATC was being disseminated mistakenly to SICCs. This problem was corrected by DLA and the ATC errors shown here are primarily due to this system problem.

The errors for GSA are readily apparent when examining specific error codes. The PCC, a control data element, shows a volume of 4.1% of GSA errors. The significant volume of errors in the other mandatory data element validation level for GSA is due to Date of Advice which shows a 9.6% reject volume for this Component.

One error condition for LIAC transactions did not occur. This error condition is that the Action Taken Code cannot be '66' (no record) when the DIC equals CX1 (advice transactions). In addition, two error conditions had volumes less than 0.1%. These error conditions are:

* Card columns 77-80 must be blank or a valid date when the DIC is CX1 or CX4 and the ATC is YA, YL, or YQ.

* When the DIC is CX2, the ATC must be YM, YN, YP, or YV.

The occurrence of data element errors in LIAC transactions indicates that these transactions do require validation prior to submission. This is particularly true of those which are manually generated. LIAC transactions should also be validated when received even though the IMM Manual currently provides a method of identifying errors encountered to the LIAC submitter only for offer reply transactions.

4. Multiple Validation Considerations

The Navy and Air Force have designed multiple error validation and identification into their respective automated SSR Applications. This multiple error validation was described earlier in this Chapter and was the basis for identification of multiple errors during validation of the DODSSR data base. Multiple error validation of the DODSSR data base was performed to determine the potential of expanding this concept to provide the capability to identify multiple validation errors as part of the IMM Manual. Three reports will be presented and discussed in relation to this concept.

The distribution of number of errors per record by SICC is shown in Figure III-8.

DISTRIBUTION OF NUMBER OF ERRORS PER RECORD BY SICC
(Column Percent)

SICC / Errors Per Record	Army	Navy	Air Force	Marine Corps	Coast Guard	Total
1	47.7	76.6	69.9	58.9	34.5	68.3
2	41.3	18.7	9.7	28.0	58.1	20.0
3	10.0	4.2	3.8	8.8	6.0	5.3
4	0.8	0.5	5.7	2.3	1.2	2.5
5	0.1	0.0	9.9	0.7	0.2	3.5
6	0.1	0.0	1.0	0.7	0.0	0.4
7	0.0	0.0	0.0	0.5	0.0	0.0
8	0.0	0.0	0.0	0.1	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	1.6	1.3	1.8	1.6	1.7	1.5

Source: DODSSR Data Collection; Main Population.

Figure III-8

All SICCs except Air Force show better than 95% of the records in error have less than four errors per record and in the Army and Navy 99% of the records in error have three or less errors per record. The Air Force has over 16% of its records in error having four or more errors per record. Quite frankly this result is surprising, considering that the Air Force was the only Service that had implemented its automated SSR Application for the entire data collection period and was automatically validating SSR transactions for multiple error conditions as standard procedure.

The next series of figures shows the distribution of number of errors per record by validation level by type SSR transaction. The distribution for PDSSR transactions is shown in Figure III-9. As shown by this figure 59.3% of the PDSSR transactions in error had a PCC package error only; 33.7% had a PCC package error plus an error at one other validation level; and the remainder had a PCC package error plus multiple errors at one or more other validation levels. This figure shows some interesting percentages and relationships that occur only for PDSSR transactions and are not present in the distributions for LISSR catalog, or LIAC transactions. These relationships occur as a direct result of the PDSSR validation criteria; i.e., if a PDSSR transaction contains a duplicate, control data element or other mandatory data element error, it automatically contains a PCC package error also. This means that a PDSSR transaction can contain a single error only when a PDSSR transaction is not accompanied by a valid LISSR transaction; and this is a PCC package error. As shown in the figure this type of error made up over 59% of the total PDSSR errors encountered. There is also a direct relationship between the total column and the PCC package column. In the two errors per record row, it is shown that about 34% of the total PDSSR transaction in error contained two errors. Because of the validation criteria one of these two errors was a PCC package error. The second error was a duplicate, control data element or other mandatory data element error. Using the three errors per record row, the total column shows that of the PDSSR transactions in error over five percent had three errors per record. Again due to the validation criteria one of these three errors was a PCC package error and the remaining two errors were a combination of duplicate, control data element and/or other mandatory data element errors. This explains the direct correlation between the PCC package and total column for this figure.

Figure III-10 shows the distribution for LISSR transactions. This figure shows that 64.2% of the LISSR transactions in error had a single error at one validation level. This is particularly significant when 88.4 percent of these errors are PCC package errors meaning that the LISSR transaction is valid, but the accompanying PDSSR was invalid. Similarly 22.2% of the LISSR transactions in error contained two errors and of this 22.2%, 93% contained a PCC package error and one other error. Note that the highest mean number of errors is 4.1 errors per record at the other mandatory data element validation level. The distribution of number of errors per record for catalog transactions is shown in Figure III-11. Note that the majority of records with one or two errors have package and/or duplicate errors and that data element errors do not become significant until three or more errors per record is reached. This is also

DISTRIBUTION OF NUMBER OF ERRORS PER RECORD BY VALIDATION LEVEL PDSSR TRANSACTION COLUMN PERCENT

Per Record	PCC Package	LISSR 1/ Package	Dupli-cates	Control Elements	Key 1/ Elements	Other Manda-tory	Condi- 1/ tional Elements	Total
1	59.3	0.0	0.0	0.0	0.0	0.0	0.0	59.3
2	33.7	0.0	80.9	55.2	0.0	54.7	0.0	33.7
3	5.1	0.0	18.4	24.0	0.0	21.3	0.0	5.1
4	1.3	0.0	0.7	8.4	0.0	14.0	0.0	1.3
5	0.4	0.0	0.0	2.4	0.0	5.6	0.0	0.4
6	0.0	0.0	0.0	0.4	0.0	0.3	0.0	0.0
7	0.0	0.0	0.0	1.2	0.0	0.1	0.0	0.0
8	0.2	0.0	0.0	8.4	0.0	4.0	0.0	0.2
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	1.5	0.0	2.2	3.1	0.0	2.9	0.0	1.5

Source: DODSSR Data Collection; Main Population

1/ LISSR Package errors do not occur for PDSSR Transactions; PDSSR Transations contain no key or conditional data elements to be validated. Therefore, these columns contain zero percentages.

Figure III-9

DISTRIBUTION OF NUMBER OF ERRORS PER RECORD BY VALIDATION LEVEL LISSR TRANSACTION COLUMN PERCENT

Per Record	PCC Package	LISSR Package	Dupli- cates	Control Elements	Key Elements	Other Manda- tory	Condi- tional Elements	Total
1	64.7	22.0	10.8	1.4	13.3	2.1	33.2	64.2
2	23.4	52.2	56.7	27.4	33.3	14.3	39.4	22.2
3	4.9	22.2	20.5	45.8	6.5	7.2	25.9	4.7
4	1.2	1.7	1.7	14.2	14.7	26.9	1.0	3.3
5	5.1	1.1	5.4	4.8	27.9	43.6	0.2	4.9
6	0.6	0.3	4.5	2.9	3.4	4.9	0.3	0.6
7	0.1	0.2	0.3	1.8	0.5	0.5	0.0	0.1
8	0.0	0.1	0.0	1.0	0.2	0.2	0.0	0.0
9	0.0	0.1	0.0	0.5	0.1	0.1	0.0	0.0
10	0.0	0.1	0.1	0.2	0.1	0.2	0.0	0.0
MEAN	1.6	2.1	2.5	3.2	3.2	4.1	2.0	1.6

Source: DODSSR Data Collection; Main Population

Figure III-10

DISTRIBUTION OF NUMBER OF ERRORS PER RECORD BY VALIDATION LEVEL
CATALOG TRANSACTION COLUMN PERCENT

Per Record	PCC Package	LISSR Package	Dupli-cates	Control Elements	Key Elements	Other Manda-tory	Condi-tional Elements	Total
1	56.2	5.9	39.7	0.0	50.0	1.9	0.0	57.4
2	20.1	43.9	40.5	2.2	0.0	1.7	0.0	24.8
3	21.5	46.2	19.5	78.3	33.3	73.1	0.0	16.4
4	2.2	3.9	0.3	15.8	0.0	22.9	0.0	1.4
5	0.0	0.1	0.0	2.0	16.7	0.2	0.0	0.0
6	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	1.4	0.0	0.2	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	1.7	2.5	1.8	3.3	2.3	3.2	0.0	1.6

Source: DODSSR Data Collection; Main Population

Figure III-11

illustrated by the mean of over three errors per record for the Control data element and other mandatory data element validation levels. Figure III-12 shows the distribution for LIAC transactions. Note that almost 91% of the LIAC transactions in error contained a single error and that these are primarily duplicate errors. Due the extended processing cycle involved and the resulting appearance of duplicate errors for LIAC transactions, these transactions cannot be subjected to as stringent an analysis as those contained in Figures III-9, III-10, and III-11; however, it may be surmised that most LIAC transactions contain a single error by examining the figure and evaluating the impact of eliminating duplicate transaction errors from the analysis.

The distribution of the number of errors per validation level for PDSSR transactions, LISSR transactions, Catalog transactions and LIAC transactions are shown in Figures III-13, III-14, III-15, and III-16 respectively. Since only one PCC package, LISSR package or Duplicate validation level error may occur per record, these show 100% in the one error per record row in each of these figures. Figure III-13 shows that one validation level error per record occurs for most control data element errors, but over 10% of the records with other mandatory data elements in error have at least two of these data elements in error. The distribution for LISSR transactions shows essentially the same pattern in Figure III-14 except that the other mandatory data element validation level has almost 54% with three data elements at this level in error. Figure III-15 illustrates that catalog transactions generally have two other mandatory data elements in error when errors occur at that validation level. Figure III-16 illustrates that generally LIAC transactions contain one error per record for a given validation level; however, the control data element and other mandatory data element validation levels do show significant percentages at the two errors per record level.

The frequency of appearance of multiple errors per record indicates that multiple error validation and some means of conveying multiple errors should be considered under the current system. This contention is based on the results of applying the DODSSR validation criteria to the DODSSR data base. In Chapter I of this Volume the number of rejects per reject chain pattern was discussed and illustrated by Figure I-94. These reject chains were established based on SSR transactions actually rejected by IMMs. Figure I-94 showed that for this Transition Period Population 92.0% of the reject chains were rejected once and 99.3% of the reject chains contained either one or two reject transactions. The rejected transactions in these reject chains may have contained more than the one or two errors identified and the DODSSR

DISTRIBUTION OF NUMBER OF ERRORS PER RECORD BY VALIDATION LEVEL
LIAC TRANSACTION COLUMN PERCENT

Per Record	PCC Package	LISSR Package	Dupli-cates	Control Elements	Key Elements	Other Manda-tory	Condi-tional Elements	Total
1	0.0	0.0	91.7	68.1	35.6	48.1	7.7	90.8
2	0.0	0.0	8.2	22.5	64.3	50.2	0.0	9.1
3	0.0	0.0	0.1	4.4	0.1	1.5	92.3	0.1
4	0.0	0.0	0.0	1.9	0.0	0.1	0.0	0.0
5	0.0	0.0	0.0	1.8	0.0	0.1	0.0	0.0
6	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	0.0	0.0	1.1	1.5	1.6	1.5	2.8	1.1

Source: DODSSR Data Collection; Main Population

Figure III-12

DISTRIBUTION OF NUMBER OF ERRORS PER VALIDATION LEVEL
PDSSR TRANSACTION COLUMN PERCENT

Errors Per Record	PCC Package	LISSR Package	Dupli-cates	Control Elements	Key Elements	Other Manda-tory	Condi-tional Elements
1	100.0	0.0	100.0	95.8	0.0	89.2	0.0
2	0.0	0.0	0.0	3.4	0.0	3.3	0.0
3	0.0	0.0	0.0	0.8	0.0	5.0	0.0
4	0.0	0.0	0.0	0.0	0.0	1.7	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.8	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	1.0	0.0	1.0	1.1	0.0	1.2	0.0

Source: DODSSR Data Collection; Main Population

Figure III-13

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DISTRIBUTION OF NUMBER OF ERRORS PER VALIDATION LEVEL
LISSR TRANSACTION COLUMN PERCENT

Per Record	PCC Package	LISSR Package	Dupli-cates	Control Elements	Key Elements	Other Manda-tory	Condi-tional Elements
1	100.0	100.0	100.0	91.2	98.5	43.2	100.0
2	0.0	0.0	0.0	7.7	1.5	2.5	0.0
3	0.0	0.0	0.0	1.0	0.0	53.9	0.0
4	0.0	0.0	0.0	0.1	0.0	0.3	0.0
5	0.0	0.0	0.0	0.0	0.0	0.1	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	1.0	1.0	1.0	1.1	1.0	2.1	1.0

Source: DODSSR Data Collection; Main Population

Figure III-14

DISTRIBUTION OF NUMBER OF ERRORS PER VALIDATION LEVEL
CATALOG TRANSACTION COLUMN PERCENT

Per Record	PCC Package	LISSR Package	Dupli- cates	Control Elements	Key Elements	Other Manda- tory	Condi- tional Elements
1	100.0	100.0	100.0	95.4	100.0	11.7	0.0
	0.0	0.0	0.0	4.0	0.0	88.3	0.0
[illegible]	0.0	0.0	0.0	0.2	0.0	0.0	0.0
4	0.0	0.0	0.0	0.4	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	1.0	1.0	1.0	1.1	1.0	1.9	0.0

Source: DODSSR Data Collection; Main Population

Figure III-15

DISTRIBUTION OF NUMBER OF ERRORS PER VALIDATION LEVEL
LIAC TRANSACTION COLUMN PERCENT

Per Record	PCC Package	LISSR Package	Dupli-cates	Control Elements	Key Elements	Other Manda-tory	Condi-tional Elements
1	0.0	0.0	100.0	87.9	100.0	88.5	100.0
2	0.0	0.0	0.0	10.6	0.0	11.5	0.0
3	0.0	0.0	0.0	1.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.5	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MEAN	0.0	0.0	1.0	1.1	1.0	1.1	1.0

Source: DODSSR Data Collection; Main Population

Figure III-16

validation tends to confirm this. The results of passing this same population thru the DoDSSR Validation Criteria is shown in Figure III-17.

DISTRIBUTION OF NUMBER OF ERRORS PER RECORD
(Type Transaction Column Percent)

Errors Per Record	PDSSR Trans.	LISSR Trans.	Catalog Trans.	Total
1	52.0	61.2	51.1	58.8
2	38.4	20.9	31.2	23.9
3	7.3	5.4	17.0	7.7
4	1.5	4.7	0.7	3.7
5	0.5	7.0	0.0	5.3
6	0.0	0.7	0.0	0.6
7	0.0	0.1	0.0	0.0
8	0.3	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0

Source: DODSSR Data Collection; Transition Period Population

Figure III-17

This figure shows that the 99% level is not reached until up to five errors per record are encountered. Although the reject chains were not limited to invalid data rejects alone, the amount of manual corrections and editing being performed by SICCs and IMMs is indicated. A choice must be made as to whether the IMMs may continue to correct invalid transactions or whether a standardized edit/validation criteria will be used to reduce the number of errors per record. To the extent that improved edit/validation criteria can be developed and implemented by SICCs and IMMs, the requirement for a multiple error procedure is reduced.

5. Validation Reject Trend Analysis

The IMM Manual which was implemented on 1 May 1978 contains formats and procedures which were different from those previously used. To determine the effects of learning these new formats and procedures the data base was stratified into two four-month segments. The first segment is designated the Transition Period and runs from 1 May thru 31 August 1978. The second segment is designated the Steady State Period and covers the remainder of the data collection. These two subpopulations were then validated to determine if any significant changes occurred between the two timeframes. In terms of the previous discussions

relating to data elements causing errors and multiple errors, the two subpopulations indicate results similar to the total data base as described above. However, there are certain differences between these subpopulations which are important.

The combinations of validation hierarchical errors are shown by Service for the two subpopulations in Figure III-18. This figure illustrates that there is a definite shift from detail only and hierarchy combination errors in the Transition Period, to single package errors in the Steady State Period in the Army, Navy, and Air Force. In the Army, this shift is to both PCC package errors and LISSR package errors while for the Navy and Air Force the shift is almost totally to PCC package errors. Note the percentage shift of about 32% less for detail only errors to about 33% more for PCC package errors between the two periods in the Air Force. The Marine Corps shows a totally different pattern than the other Services. The Marine Corps appears to decrease error percentage in the PCC package and detail error combination and the PCC package, LISSR package and detail combination with an almost equivalent increase in detail only errors. This indicates that while the Army, Navy, and Air Force improved in making proper data element entries, they were having problems getting transactions in the proper package formats. The Marine Corps, on the other hand, improved in getting transactions with errors in multiple levels down to transactions with errors in a single level and improvement was primarily in the package area. Figure III-18 shows more generally that the shift is from multiple combination errors to a single hierarchical error.

Figure III-19 shows the distribution of number of errors per record by DIC for both the Transition Period and the Steady State Period. This figure illustrates the fact that as the Services became more familiar with the IMM Manual the number of errors per record was significantly reduced.

The trends illustrated by these figures show that errors in multiple levels are decreasing and the number of errors per record are decreasing as the Components gain familiarity with the IMM Manual and the procedures contained therein. Although the number of errors per record are decreasing, a significant percentage of records (over 30% in most cases) contain two or more errors even in the Steady State Population. This indicates that although the requirement for multiple error identification still exists; the number of errors that need be identified may be less than the number indicated for the DODSSR data base as a whole.

COMPARISON OF SUBPOPULATION ERROR VOLUMES BY VALIDATION LEVEL WITHIN HIERARCHY
(Column Percent)

	Army		Navy		Air Force		Marine Corps	
	Transition Period	Steady State	Transition Period	Steady State	Transition Period	Steady State	Transition Period	Steady State
PCC Package	11.8	16.5	72.3	81.0	27.6	60.0	35.2	33.4
LISSR Package	5.0	15.3	0.0	0.0	0.7	1.1	5.1	7.2
PCC & LISSR Package	6.2	9.8	2.7	3.5	1.0	1.3	7.4	4.4
Detail	30.7	18.1	3.8	5.0	45.8	14.0	15.0	32.4
PCC & Detail	24.1	28.3	17.0	6.3	21.0	20.7	27.8	16.9
LISSR & Detail	12.5	8.5	1.8	1.0	1.8	0.4	1.8	1.9
PCC, LISSR & Detail	9.7	3.5	2.4	2.7	2.1	2.5	7.7	3.8

Source: DODSSR Data Collection

Figure III-18

DISTRIBUTION OF NUMBER OF ERRORS PER RECORD BY DIC AND SUBPOPULATION

DIC \ Errors/Record	1	2	3	4	5	6	7	8	9	10
CWA										
Transition Period	47.4	42.4	7.5	1.7	0.6	0.0	0.0	0.4	0.0	0.0
Steady State	69.2	27.6	2.1	1.0	0.1	0.0	0.0	0.0	0.0	0.0
CXA										
Transition Period	58.8	15.5	2.5	8.1	13.7	1.4	0.0	0.0	0.0	0.0
Steady State	70.3	16.2	2.5	4.2	6.2	0.6	0.0	0.0	0.0	0.0
CXB										
Transition Period	71.0	21.3	6.9	0.4	0.4	0.0	0.0	0.0	0.0	0.0
Steady State	76.1	17.9	5.4	0.4	0.1	0.1	0.0	0.0	0.0	0.0
CXC										
Transition Period	46.4	41.9	2.3	4.7	0.0	0.0	0.0	0.0	0.0	4.7
Steady State	65.6	20.7	0.0	10.3	3.4	0.0	0.0	0.0	0.0	0.0
CXF										
Transition Period	68.2	9.9	19.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Steady State	68.6	12.1	14.8	4.5	0.0	0.0	0.0	0.0	0.0	0.0
CXG										
Transition Period	45.7	37.7	16.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Steady State	74.0	6.4	19.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
CXK										
Transition Period	42.0	47.6	9.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Steady State	50.4	44.0	5.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
WWA										
Transition Period	72.7	20.7	6.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Steady State	87.4	10.8	1.2	0.2	0.4	0.0	0.0	0.0	0.0	0.0
WXA										
Transition Period	10.7	66.2	20.0	2.3	0.2	0.1	0.5	0.0	0.0	0.0
Steady State	11.4	78.0	9.6	0.8	0.1	0.0	0.1	0.0	0.0	0.0
WXB										
Transition Period	2.2	47.9	9.6	36.9	1.0	2.4	0.0	0.0	0.0	0.0
Steady State	64.8	14.8	16.7	3.7	0.0	0.0	0.0	0.0	0.0	0.0

Source: DODSSR Data Collection

Figure III-19

E. ACTION TAKEN CODE USAGE

The IMM Manual provides for specific Action Taken Codes (ATCs) to be used by IMMs to relate accept/offer/reject/NSN Notification advice to SICCs. In Chapter I of this Volume, the DODSSR Study Team categorizations of these ATCs and the relative occurrence of each category was discussed. The reject ATCs were divided into seven subcategories of which invalid data was one subcategory. This one subcategory contains 27% of the ATCs in the IMM Manual and are the ones resulting from automated or manual validations. DLA in its automated systems design has used these ATCs exclusively; however, the Army, Navy, Air Force, and GSA have developed Component unique ATCs as part of their systems design. While the Navy, Air Force, and GSA unique ATCs bear no resemblance in meaning to those contained in the IMM Manual, the Army includes those from the IMM Manual as part of the Army unique ATCs. Although these Component unique ATCs are generally to be used within the Component only, some of these codes may be disseminated in advice transactions to other Component activities particularly by the Army. This usage of Component unique ATCs on an intra-activity/Component basis and IMM Manual ATCs on an inter-activity/Component basis is likely to cause confusion in the automated systems and in manual interpretation by functional users.

The unique ATCs used by each of the Services as well as those from the IMM Manual are listed in Appendix D. A review of these unique ATCs indicates that they generally fall in the invalid data category of ATCs. Figure III-20 shows the ATCs used by each of the Services, DLA and the DODSSR validation criteria for each of the data elements contained in a PDSSR transaction. Note that the IMM Manual provides for a single ATC (52) to be used when a validation error in any mandatory data element in a PDSSR transaction is encountered, and that ATC 36 (other) must be used when an error is found in Date NSNs are Required or Weapons System Code. Figure III-20 clearly shows that the internally used, Service unique ATCs are designed to identify the specific data element in error. Although the GSA unique ATCs are not shown, they are designed to perform this same function. Note that each data element not automatically assigned or bypassed is assigned a separate ATC by each Service. If similar figures were to be developed for LISSR data elements, catalog transaction data elements and LIAC data elements, they would similarly indicate that specific ATCs were developed for each data element rather than using the more generalized ones in the IMM Manual; i.e., '32' and '36.' This is exemplified by Figure III-21 which shows the ATCs used by each Component for the control data elements in LISSR transactions. The IMM Manual ATC applicable to an error in any of these control data elements is '32.'

PDSSR VALIDATION REJECT ATCs

Component / Data Element	Army	Navy	Air Force	DLA	IMM Manual	DoDSSR
Document Identifier Code	50	U	01	Bypassed	52	Bypassed
Activity Code To	58	1	Automatic Assignment	52	52	5A
Type Change Code	83	Edited	Edited	52	52	5B
End Item NSN, Name, Etc.	71 or 65	C	39	52	52	5C
Date NSNs Are Required	S9	Edited	Edited	Edited	36	Edited
Date Repair Parts Required	49	Edited	Edited	52	52	5D
Contract Control Number	S7	E	21	52	52	5E
Date of Request	90	8	53	52	52	5F
End Item Delivery Code	53	Edited	Edited	52	52	5G
Provisioning Control Code	74	P	02	52	52	5H
FSCM Prime	72	G	14	52	52	Bypassed
Weapons System Code	9Q	Bypassed	Edited	52	36	Edited
Activity Code From	94	Automated Assignment	07	52	52	5I
End Item Quantity	61	Q	20	52	52	5J
Number of SSRs Enclosed	93	Automated Assignment	Automatic Assignment	Edited	52	Edited
% End Items East	9P	Edited	57	52	52	5K

Source: Validation Analysis Questionnaire, IMM Manual, DODSSR Validation Specification

Figure III-20

LISSR CONTROL DATA ELEMENT VALIDATION REJECT ATCs

Component Data Element	Army	Navy	Air Force	DLA	IMM Manual	DODSSR
Activity Code To	S8	1	07	32	32	3A
Activity Code From	94	Automatic Assignment	07	32	32	3G
Provisioning Control Code	74	P	02	32	32	3F
Date of Request	90	8	03	32	32	3E
Item Serial Number	78	R	04	32	32	3I

Source: Validation Analysis Questionnaire, IMM Manual, DODSSR Validation Specification.

Figure III-21

The more specific internal ATCs generated and used by the Components show that the reject ATCs for invalid data in the IMM Manual are not sufficient in identifying error conditions. As shown in Figures III-20 and III-21 the DODSSR validation criteria broke down the IMM Manual generalized ATCs into one data element, one ATC combination. The Component unique validation reject ATCs are listed in Appendix D.

F. SUMMARY ANALYSIS AND CONCLUSIONS

This Chapter presented the validation conventions and criteria used by the Components to validate and edit incoming and outgoing SSR transactions. The major concepts presented included specific hierarchies of validation, multiple validation concepts, and reject code usage concepts. These concepts and the specific validation criteria were combined into a DODSSR validation criteria which was applied to the DODSSR data base to determine the major causes of errors in SSR transactions.

The hierarchies and validation levels used by each of the Components and in the DODSSR validation criteria is seen to be a direct result of the package requirement stipulated - sometimes indirectly - by the IMM Manual. It is significant that this same package requirement is the major source of errors in the DODSSR data base and that the only error encountered in almost 57% of the LISSR transactions found to be invalid was a PCC package error. As was discussed in Volume II this package concept is used by each of the Services in provisioning equipment, but is not necessarily used in their manual or automated SSR processing. As evidenced in this same Volume, SSR processing on an IMM basis subsequent to validation is strictly on an item basis not a

package basis. Therefore, the usage of the specific data elements within PDSSR and other SSR transactions must be closely examined to determine if it is possible to reduce the impact of this package concept and more importantly reduce the errors attributable to this concept in SSR processing.

Duplicate validation is also a product of validation conventions and contributed significantly to the error volumes in the DODSSR data base. Although much of this duplicate error volume is due to the eight-month cycle of data collection, one point is apparant. Duplicate validation is required to prevent different items of supply from being submitted with identical control elements. The DODSSR data base contains some of these duplicate transactions as discussed in Chapter I of this Volume. Many of these duplicate transactions would not be evidenced under Component validation criteria because duplicate transaction validation is generally performed only on transactions input to the current automated cycle. To determine many of the duplicate transactions found in the data base a duplicate check would have to be made against the Component SSR Suspense File.

Detail data element validation of the DODSSR data base indicates that the majority of the data element errors that occur are in Other Mandatory data elements. This is true for all four types of SSR transactions including PDSSR transactions, LISSR transactions, catalog transactions and LIAC transactions. The data elements contained in this validation level require review as to their actual usage to determine if they can be eliminated or edited to reduce the volume of invalid data errors they are causing. A single key data element was found to be causing a significant number of errors in CXA/CXC transactions. The PMC is used in conjunction with the Unit Price to distinguish between an Active NSN LISSR transaction and an Inactive NSN LISSR transaction by DLA and in the DODSSR validation criteria. As a result the validation of these two data elements is tied together, so that when Unit Price is blank, the PMC should be blank and when the Unit Price is numeric, the PMC must contain a valid code. When these conditions are not met the LISSR transaction is rejected based on a PMC error. When the LISSR transaction is for an active NSN neither of these data elements are required in the LISSR transaction or needed for processing and therefore need not be validated. In addition, at least one Component was routinely placing the Unit Price in most LISSR transactions, but not the PMC. Obviously, this situation causes needless rejection of LISSR transactions. If LISSR transactions for active NSNs need to be distinguished from those for inactive NSNs, the IMM Manual should provide a better method of doing this; such as, separate DICs.

A final product of this validation hierarchy is the concept of not validating LIAC transactions. The validation of the DODSSR data base clearly illustrates that LIAC transactions do require validation prior to submission and upon receipt. The nonvalidation of LIAC transactions is potentially due to the lack of a procedure or method of relating LIAC transactions in error (except offer reply transactions) to the LIAC submitter.

The Navy and Air Force have included multiple validation reject concepts into their respective automated SSR Applications. The validation of the DODSSR data base as a whole provides support for this multiple validation reject concept under the current IMM Manual procedures and formats. However, to the extent that specific data elements producing the volume of single and multiple errors continue to be manually corrected or extensively edited when invalid by IMMs, and to the extent that the trend continues to move from multiple level, multiple errors to single level, single errors the requirement for multiple error identification to SICCs by IMMs is reduced. Multiple validation of SSR transactions from a SICC basis prior to submission is definitely a concept which should be considered by all SICC Services in the design/redesign of their respective automated SSR Applications; however, this concept must also be evaluated in terms of editing, corrections, and multiple error trends.

The automated SSR Application design of the Army, Navy, Air Force and GSA provide for internal use of reject codes peculiar to each Component. These internal reject codes tend to identify specific data elements in error not currently covered by specific reject codes within the IMM Manual. Adherance to the IMM Manual would require these Components to use the more generalized rejects codes (52, 32, 36). This is a direct indication that the current reject codes are not sufficient and that they need to be expanded to a "one reject code - one data element" basis or that some other means of identifying specific data elements in error should be provided.

Finally, the comparison of the validation criteria used by the Components shows that generally this criteria is not consistent from Component to Component for all data elements. For a few data elements the criteria is identical for all Components, but the vast majority of data element are not validated on a consistent basis. This fact alone causes error conditions to occur. In addition, there is some variation within the Services on the same data element when validated as a SICC vs. validation as an IMM. This is particular true in the Air Force where a very structured validation is performed for outgoing SICC SSR transactions and minimal automated validation is performed on incoming WIMM SSR transactions. The philosophy behind this wide

variation in validation criteria clearly explains this difference. The outgoing transactions are subjected to the strict validation in an effort to allow these transactions to pass IMM validation while only data elements required to process the SSR transactions in the automated SSR Application are validated in incoming SSR transactions. Other data elements are validated by functional personnel as described in the section on manual validation criteria. This indicates that there are some data elements which may have little or marginal utility and may be edited or bypassed in validation. One good example of this is a key data element which is apparantly used only by DLA and is used in conjunction with Unit Price to distinquish a Condition 1 NSN SSR submittal from a Condition 2 NSN SSR submittal. This key data element is the Procurement Method Code which appeared as the primary contributor to key data element validation level errors within the DODSSR Data Base. The relative use of specific data elements is discussed further in Chapter V, Volume I, to determine specific data elements which may be eliminated, edited or bypassed to permit processing of the SSR transaction; not rejection of the SSR transaction.

APPENDIX A

QUANTITATIVE EVALUATION PLAN

I. PURPOSE

To apply quantitative methods to the evaluation of the Supply Support Request (SSR) systems and procedures in order to determine the relative efficiency/effectiveness of Service/Agency systems and procedures that were developed to implement DoD 4140.26M, Volume 1, May 1978.

II. PROBLEM OBJECTIVE

To measure the performance of the respective SSR systems, in support of the study objectives as stated in the Study Plan.

III. BACKGROUND

It has been alleged that SSRs are not being processed in a timely manner which is necessary to ensure effective and efficient supply support of end items of materiel. Examples of problems reported include extended transmission times, a high rate of rejects, and the lack of a management control system to monitor and control the overall SSR process.

IV. APPROACH

Explicit and implicit goals, standards and times for SSRs will be determined by reviewing SSR policy, systems, and procedures. Data will be collected from the major SSR submitters and receivers. The collected data will be processed to statistically describe the various SSR systems. Analytical models and quantitative analyses will be developed to analyze the SSR systems to measure actual performance against existing performance goals and those developed by the Study Group.

V. CONSTRAINTS

Time limitation of study constrains data collection to an 8-month timeframe.

VI. METHODOLOGY

A. Identify the major submitters and receivers of SSRs.

B. Develop a data collection system.

C. Collect actual transaction data from each SSR submitter and receiver for a specified period of time.

D. Establish a data base to permit computerized processing of the data.

E. Purify the data base.

F. Develop evaluation criteria to be used in the analysis of the collected data.

1. Goals

2. Standards

3. Times

4. Other measures of effectiveness/efficiency

G. Develop analytical models of the SSR systems, manual and computer requirements specifications and programs for descriptive and analytical reports to evaluate these systems.

H. Stratify data population and process data through the models and reports programs.

VII. EVALUATION

Analyze computer and manually generated statistics to determine relative system performance. Compare actual performance with evaluation factors, goals and standards and recommend system improvements as applicable.

APPENDIX B

DEFENSE SUPPLY AGENCY

DEFENSE LOGISTICS ANALYSIS OFFICE
CAMERON STATION
ALEXANDRIA, VIRGINIA 22314

21 March 1978

SUBJECT: Department of Defense Supply Support Request (DODSSR) Study Data Collection

TO: Deputy Chief of Staff for Logistics, U.S. Army (DALO-SML)
Commander, Naval Supply Systems Command, (Code 0342C)
Deputy Chief of Staff, Systems & Logistics, U.S. Air Force (AF/LGYPS)
Commandant of the Marine Corps (Code LMO-2)
Director, Defense Logistics Agency (DLA-OPL)

1. By Memorandum dated August 17, 1977, the Deputy Assistant Secretary of Defense (Supply, Maintenance & Services) established a Department of Defense Study Group to conduct a comprehensive review and analysis of the supply support request (SSR) processing and interfacing systems for generating, transmitting, processing and controlling SSRs in order to develop systems improvements to promote effective and efficient supply support of DoD equipment.

2. To accomplish this study objective in accordance with the study requirement, it is necessary to collect data to permit an objective analysis of systems, procedures, formats and conventions. Data collection requirements, including designated submitting activities, time frames, and procedures are outlined in the enclosures to this letter.

3. In order to facilitate complete understanding of the data collection, it is requested that a contact point be designated at each Service/Agency/Activity submitting data and that the contact's name, address and telephone number be provided to the DODSSR Study Team below:

Defense Logistics Analysis Office
DODSSR Study
Cameron Station
Alexandria, VA 22314

AUTOVON 284-6283
Commercial 202-274-6283

4. This requirement is assigned Reports Control Symbol DD-M(OT)7811.

T.D. Beck

T.D. BECK
Director
DODSSR Study

3 Encl
1. Data Collection Requirements
2. AUTODIN Control Cards Requirements
3. List of Submitting Activities

DODSSR DATA COLLECTION REQUIREMENTS

I. REFERENCES:

A. DoD 4140.26M, Vol I, Subject: Defense Integrated Materiel Management for Consumable Items.

B. Joint Regulation: AFLC Regulation 400-21
DARCOM Regulation 700-99
NAVMATINST 4790.23
MCO P4410.22

Subject: Elimination of Duplication in the Management and Logistics Support of Multi-Used Nonconsumable Items.

II. TYPES OF DATA. Submit the following types of data.

A. CIMM/WIMM Consumable SSR Transactions. Reference IA, Ch 4, and Appendix E.

1. PDSSR. (Program Data Supply Support Request Cards) Document Identifier Codes W/CWA.

2. (Line Item Supply Support Request Cards) DIC W/CX__.

3. LIAC. (Line Item Advice/Followup Cards) DIC CX__.

B. NIMSR. Nonconsumable Item Materiel Support Requests, Reference IB, Appendix D.

III. PROCEDURES

A. Scope. Submit copies of all CIMM/WIMM/NIMSR transactions generated, submitted, or received either intra- or inter-Service/Agency during the period 1 May 1978 through 31 October 1978.

B. Duplication

1. CIMM/WIMM Consumable. Reproduce/duplicate the transactions entering the date (Julian date, i.e., 8121 for May 1, 1978) actually submitted or received in character positions 60-63 of each and every PDSSR/LISSR/LIAC transactions.

2. NIMSR. Annotate the Julian date actually submitted or received on each and every NIMSR Request/Advice Followup form/letter/memo submitted or received.

Encl 1

C. Data Submission

1. CIMM/WIMM Consumables. Submit data via AUTODIN using the AUTODIN Control Cards and to the address listed in Enclosure 2.

2. NIMSR. Submit via mail to the following address:

Defense Logistics Analysis Office
ATTN: DODSSR Study Group
Cameron Station
Alexandria, VA 22314

IV. SCHEDULE OF SUBMISSIONS. 1 May to 31 October 1978.

A. CIMM/WIMM Consumables. May be submitted on a daily basis via AUTODIN or batched and sent based upon local data processing cycle of daily/weekly/monthly.

B. NIMSR. Mail on a weekly or monthly basis, whichever is more convenient.

V. SUBMITTING ACTIVITIES. See Enclosure 3.

VI. CLARIFICATIONS OF DATA REQUIREMENTS

A. Data Processing/Communications Conventions:

Mr. Paul Leonard
AUTOVON 284-7212
Commercial 202-274-7212

B. Other Clarifications:

Mr. P.M. Daniels
AUTOVON 284-6283
Commercial 202-274-6283

AUTODIN CONTROL CARDS

Provide the following information to identify and control the data collection submissions forwarded by AUTODIN.

TEXT HEADER CARD

SSR Data RCS __________

Paul W. Leonard

DASC-D

Content Indicator DHAE

TEXT BATCH CARD

Batch _____ of _____. (Indicate individual batch number and total number of batches.)

AUTODIN HEADER CARD

Provide Data Message Form DD 1392 using Content Indicator DHAE and Language Media Format (LMF) Code CC as shown in pages 2 and 3 of this Enclosure 2. Communications Routing Identifier RUEBDSA applies and will be assigned by the communications center or data processing when preparing message header format using the data in the DD Form 1392.

Encl 2

PREPARATION OF THE DATA MESSAGE FORM

General. DD Form 1392 is designed to provide the communications center with information to prepare header cards for transmission. Data message originators who do not prepare the header format for transmission will deliver the message text to the communications center with a completed DD Form 1392. Addressees and their geographical location must be entered on this form in clear text. Coded addressees and APO/FPO numbers will not be used. Data message are limited to a maximum of 500 cards including the header and end-of-transmission (EOT) cards. Messages of greater length will be transmitted as two or more transmission sections. These instructions are for data message originators who do not prepare the header format.

Precedence. Enter ROUTINE.

Language Media Format (LMF). Enter CC.

Classification. Enter UNCLASSIFIED.

Addressee: Forward to the following address:
DEFENSE LOGISTIC AGENCY
CAMERON STATION
ALEXANDRIA, VA 22314

Card Count. Enter the total number of cards being sent to the communications center. An accurate count of cards is essential. The count may not exceed 498 cards for one message when the header and EOT card will be prepared by communications center personnel.

Originator's Identification. This block serves the same purpose as the FROM line on the DD Form 173. Enter the title of the originating activity.

Content Indicator. Enter DHAE.

Releasing Officer's Signature. Type name and title of releaser in upper part of block. Releaser must sign this block before the message is delivered to the communications center.

Office Symbol and Extension. Enter office symbol and telephone extension of the drafter.

Remarks. This block may be used for local special handling instructions, and to insert the phrase "MINIMIZE considered" during periods when MINIMIZE has been imposed.

SAMPLE

DATA MESSAGE FORM	PRECEDENCE ROUTINE	LMF CC	CLASSIFICATION UNCLASSIFIED
ADDRESSEE *(Clear Text)* DEFENSE LOGISTICS AGENCY, CAMERSON STATION, ALEXANDRIA, VA. 22314			CARD COUNT *(Detail cards)*
ORIGINATOR'S IDENTIFICATION *(RCS, follow-up, status, etc.)*	CONTENT IND	RELEASING OFFICER'S SIGNATURE	OFFICE SYMBOL & EXT.
REMARKS			

FOR COMMUNICATIONS CENTER USE ONLY

ORIGINATOR'S ROUTING INDICATOR	STATION SERIAL NUMBER	DATE-TIME *(Time filed)*
TOTAL CARD COUNT	ADDRESSEE ROUTING INDICATOR	SUPERVISOR'S SIGNATURE
OPERATOR'S SIGNATURE	TIME TRANSMITTED	CLASSIFICATION

DD FORM 1392, 1 AUG 62

3

Appendix B, page 6

SUBMITTING ACTIVITIES

ARMY

ARRCOM
CERCOM
MIRCOM
TARCOM
TSARCOM

NAVY

ASO
SPCC

AIR FORCE

OCALC
OOALC
SAALC
SMALC
WRALC

MARINE CORPS

MCLSBA

DEFENSE LOGISTICS AGENCY

DCSC
DESC
DGSC
DISC

Encl 3

APPENDIX C

OFFICE OF THE SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

DEFENSE LOGISTICS
ANALYSIS OFFICE

16 June 1978

SUBJECT: Department of Defense Supply Support Request (DODSSR) Study AUTODIN Test

TO : DODSSR Study AUTODIN Test Contact Points

1. The development and conduct of an AUTODIN Test by the DODSSR Study Group was discussed and approved in principle at the Special Projects Group for Provisioning meeting of 29 March 1978. Specific procedures and participating members were to be negotiated and arranged by the Study Group with Services/Agencies.

2. The purpose of the test is to determine the feasibility of transmitting and receiving Supply Support Requests (SSRs) over AUTODIN. A draft test plan has been developed by the Study Group for consideration. This plan outlines proposed Test objectives, procedures, participating activities and schedule.

3. In order to proceed with this test within the confines of the study schedule, it is requested that the Service/Agency AUTODIN Contact Points meet with the DODSSR Study Group to discuss the enclosed Test Plan and participate in development of test plans and procedures.

4. The meeting will be convened at the Dwyer Building, 3220 Duke Street, Alexandria, Virginia at 0800 on Friday, June 23, 1978. Major G.T. Amoscato may be contacted on AUTODIN 284-6283 or AC 202-274-6283 regarding visit arrangements.

T.D. Beck

T.D. BECK
Director,
DODSSR Study

cc: (w/o encl)
OASD (MRA&L) SR
DCSLOG (DALO-SML)
AF/LGYPS
HQ MC (LMO-2)

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DODSSR STUDY

AUTODIN/TELEFAX TEST PLAN

I. PURPOSE

This test is being conducted to determine the feasibility of transmitting and receiving Supply Support Requests over AUTODIN.

II. REFERENCES

A. ASD (MRA&L) SM&S memo of August 17, 1977, Subject: Establishment of Supply Support Request (SSR) Study.

B. Special Projects Group for Provisioning (SPG) Meeting of 29 March 1978.

C. Special Projects Group for Provisioning (SPG) Meeting of 18 July 1978.

D. DLAO letter of 23 June 1978, Subject: DODSSR Study AUTODIN Test.

E. DLAO letter of 25 July 1978, Subject: DODSSR Study AUTODIN Test.

F. DLAO letter of 24 August 1978, Subject: DODSSR Study AUTODIN Test.

G. DLAO letter of 12 October 1978, Subject: DODSSR Study AUTODIN Test.

H. DLAO letter of 22 November 1978, Subject: DODSSR Study AUTODIN Test.

I. DoD 4140.26M, Vol I, Subject: Defense Integrated Materiel Management for consumable Items.

J. DLAO letter of 21 March 1978, Subject: DODSSR Study Data Collection.

K. DLAO letter of 24 August 1978, Subject: DODSSR Study Data Collection.

L. MIL-STD-1561 of 11 Nov 1974, Subject: Provisioning Procedures, Uniform DoD.

III. BACKGROUND

The DODSSR Study was assigned by Reference A to review and analyze the SSR processing and interrelated systems to identify problems associated with the systems used to generate, transmit, process and control SSRs and to recommend improvements to increase the effectiveness and efficiency of these systems.

During numerous meetings of the SPG, problems have been identified that relate to the transmission and control of SSRs. The use of AUTODIN for SSRs has been recommended as a potential solution to problems associated with the transmission of SSRs, However, there has not been universal agreement on the use of AUTODIN for this purpose. In order to properly evaluate AUTODIN as an alternative, the DODSSR Study Group proposed and received approval in principle, during Reference B meeting to conduct an AUTODIN Test. An extension of the test to 30 November 1978 was authorized during Reference C.

References D-H, forwarded test plans for the AUTODIN Test. The test plans were discussed by the study team and participating activities. Subsequent to the development of the initial plans for the electrical transmission of SSRs over AUTODIN, the study team developed a plan for the electrical transmission of technical data using telecommunications facsimile (TELEFAX) equipment. Implementation procedures for the electrical transmission of SSR and technical data have also been developed and are included in the test plan. Evaluation guidelines were also developed and are included as an attachment to the test plan.

IV. OBJECTIVES

A. Decrease transmission times for submissions, followups and replies.

B. Improve control and provide an audit trail from the time an SSR has been prepared by the submitting activity until communicated to and received by the receiving activity and introduced into processing.

C. Decrease SSR loss rate.

D. Improve processing efficiency at submitter/receiver (SICC/IMM).

E. Improve processing effectiveness at submitter/receiver (SICC/IMM).

F. Increase accuracy of submissions.

V. SCOPE

All SICC/CIMM consumable SSR transactions transmitted between the participating activities during the test period as covered by Reference I, Ch 4, and Appendix E. This includes all conditions and Document Identifier Codes in the SSR Series. SICC/WIMM transactions are excluded (both provisioning and nonprovisioning actions manually or mechanically generated from any organizational element at the submitter activities).

A. PDSSR. (Program Data Supply Support Request Cards) Document Identifier Code CWA.

B. LISSR. (Line Item Supply Support Request Cards) DIC CX__.

C. LIAC. (Line Item Advice/Followup Cards) DIC CX__.

VI. PARTICIPATING ACTIVITIES

A. SICCs (Submitters)

Service/Agency	SSR AUTODIN	Tech Data TELEFAX
Army	TSARCOM	---
Navy	SPCC	SPCC
Air Force	SMALC	SMALC

B. CIMM (Receiver)

Service/Agency	SSR AUTODIN	Tech Data TELEFAX
DLA	DGSC	DGSC

VII. CONTACT POINTS

Attachment A provides a list of contact points for participants in the AUTODIN Test. Direct contact will be made with the appropriate contact point to expedite resolution of any operational problems that might come up during the conduct of the test.

VIII. SCHEDULE

A. Test Period. The test will be conducted for period of four months. This is considered the minimum time required to complete or close out the majority of transactions. The intent is to permit experience with all types of transactions and it is not expected that all transactions initiated during the period will be completed.

	SSR-AUTODIN	Tech Data-TELEFAX
Start Date	1 September 1978	1 October 1978
Stop Date	30 November 1978	31 December 1978

B. Evaluation Period. Although it is intended that the test will be under constant assessment during the operational test, a period of one month will be allotted to evaluating the results of the test. Each participating activity will be expected to submit a written evaluation report directly to the DODSSR Study Chairman by 31 January 1979.

IX. TEST PROCEDURES

A. Submission

1. Commencing 1 September 1978 all participating activities will submit all SSR EAM card-type traffic for consumable items over AUTODIN between Test SICCs and Test CIMM activities only. AUTODIN content Indicator Code IHFZ will be used. This includes all initial, change, resubmission, advice, reply, follow-up, and rejection traffic for all conditions using any of the Document Identifier Codes outlined in V. SCOPE above. Traffic will not flow between test SICCs or nontest activities.

2. SICC submitters should forward SSR traffic to the CIMM immediately after generation and validation. The same general processing procedures and cycles should be used to generate SSRs to be forwarded by AUTODIN as used for the conventional mode for other SSR traffic. However, it is anticipated that after generation, traffic to the Test CIMM (DGSC) may be routed using several options including:

a. Card submission from ADP/EAM Keypunch Operations to AUTODIN Operations.

b. Tape submission from ADP Operations to AUTODIN Operations.

c. Direct wire interface between ADP and AUTODIN Operations.

3. Controls should be established to ensure that SSRs are routed to AUTODIN Operations by the most expeditious method possible and that backup information is retained in the event of loss or misrouting of transactions.

a. AUTODIN Operations should retain backup data in accordance with their normal procedures.

b. ADP Operations should maintain emergency backup files on card or tape for the duration of the test with a disposition date of 30 June 1979.

4. Copies of SSR transactions are currently being sent to the DODSSR Study Team by AUTODIN. These transactions should continue to be sent to the study team as outlined in Data Collection Procedures in References J and K.

5. Technical Data

a. Technical data, as defined in Reference L, page 2, paragraph 3.23 includes, but is not limited to:

(1) Drawings

(2) Sketches

(3) Wiring Diagrams

(4) Photographs

(5) Commercial catalog pages or descriptions

(6) Bills of material

(7) DLA Form 546 Standard/Alternate Referral

(8) Vendors letters of refusal

(9) Any other literature providing descriptive information of items when technical data is required to accompany SSRs.

b. SSRs requiring technical or supporting documentation should also be forwarded over AUTODIN immediately after creation. A procedure should be established by both SICCs and CIMMs to ensure that this documentation is forwarded as expeditiously as possible as possible. This documentation should contain the following identifying control information marked on the face of the drawing to facilitate matching up with the SSR by the recipient.

(1) PCC

(2) DOR

(3) ISN

(4) Activity Code (From)

c. Technical data for which SSRs are separately forwarded by AUTODIN, will be mailed to DGSC during the period 1 September 1978 to 30 September 1978 by all submitters and TSARCOM for the entire test. The technical data will be marked on the face of the material with control data as described above. The covering letter will contain a reference to the AUTODIN Test. Listings of SSRs generated during the Test will be used to identify SSRs for which technical data will be submitted.

d. Technical data will be forwarded to DGSC via electrical facsimile transmission during the period 1 October 1978 to 30 December 1978 by TELEFAX submitting activities.

(1) Control data will be marked on the face of the drawing.

(2) Technical data with dimensions of 18" x 24" or less will be electrically transmitted and the copy retained in the PCC file.

(3) Technical data on aperture cards will be printed and the hardcopy will be electrically transmitted and the hardcopy will be retained in the PCC file.

(4) Oversize technical data (wider than 18") will be electrically transmitted using a hardcopy obtained from the technical library, which will provide a minimum of 24 hour turn around time for aperture card print requests. If the drawing is not in the library, the drawing will be forwarded in 18" wide segments.

(5) If technical data can not be forwarded electrically due to copy quality, multiple page commercial books, brochures and drawings, the functional contact point at DGSC will be contacted for guidance.

B. Receipt, Control and Processing

1. The CIMM Test Activity should establish procedures and controls to ensure that SSR transactions received over AUTODIN are introduced into processing as expeditiously and efficiently as possible.

a. Direct routing from AUTODIN Operations to ADP Operations should be accomplished for all transactions (all DICs).

b. Transactions for which technical data is not required or will not be provided will be processed through the entire SSR processing system. This group of SSRs consist of:

(1) Condition 1 SSRs.

(2) Condition 2 SSRs with PSCNs.

(3) Technical Data Justification Code (TDJC) in cc 73.

(4) An SSR is accompanied by a CXF card.

(5) A Condition 3 SSR that does not require techical data when the manufacturer's number in the SSR is a Government specification or standard including type designator which completely identifies the item.

c. Transactions that require the submittal of technical data but the data will not be provided until some future date and the SSR contains a Date Technical Data to be Supplied (DTDS), cc 69-72, will be processed and not held in abeyance. CIMM will followup for technical data in accordance with current procedures.

d. Transactions that require the submittal of technical data which is available at the time of submittal of SSRs will not be submitted with a CXF card, DTDS, or a TDJC. SICCs will forward technical data within 24 hours of AUTODIN transmission of SSRs. These transactions which require technical data but which have not yet been received by the CIMM will be processed through the following actions:

(1) Edit/Validation.

(2) Method of Support (MOS) Determination/ Acquisition Advice Code (AAC) assignment.

(3) Record transaction in SSR Control/ Suspense File.

(4) DLSC Screen/Interrogation.

(5) Rejection of invalid transactions.

(6) Remaining actions will be held in abeyance pending receipt of technical data. The CIMM (DLA Provisioning Coordination Office) will remain a manual log to provide a suspense control on all Part Number Select/NSN Request Cards (DIC:YDH) which require match-up to technical data. A Provisioning Item History Envelope (PIHE) will be prepared as in the nontesting environment for each Item Serial Number (ISN). The DIC:YDH card will be placed in the PIHE until technical data is

received or the SSR is returned for nonsubmittal of technical data. In the event technical data is received prior to the receipt of the DIC:YDH card a PIHE will be prepared and the technical data maintained until the DIC:YDH is received. In no instance will a DIC:YDH which requires submittal of technical data be processed to the Cataloging Division without the technical data.

(7) The CIMM, by reviewing his suspense control log, will notify the submitter seven days after receipt (F-210 Provisioning SSR List date) with a Line Item Advice Card, DIC:CX1, ATC 99, that technical data has not been received and the SSR will be rejected if the technical data is not received in seven days of the date of this notice. If technical data is not received seven days after this notice the CIMM will reject the SSR lacking technical data with an ATC 44.

(8) Technical data provided by a submitter for an SSR which has been rejected will be held by the CIMM for resubmittal of the SSR. The SSR being resubmitted will contain the same provisioning control data (PCC/ISN) as the original (rejected) SSR with the exception of the Date of Request (DOR).

2. Procedures and controls should be established to ensure that supporting techical data is provided and received by the SICC and the CIMM, and matched with the appropriate SSR transactions.

a. Initial and revised SSRs.

b. Offers of alternate and substitute items.

X. EVALUATION

Evaluation of the effectiveness and efficiency of the Test will be a joint effort among the Test Participating Activities (SICCs/CIMM) and the DODSSR Study Team. Three types of analysis will be performed.

A. Participating activities will provide an evaluation of the effects of the test on their operations in comparison with the Non-AUTODIN transctions in terms of the objectives stated in IV above. Attachments B and C provide evaluation guidelines to be used by the participating activities in performing this evaluation.

B. The DODSSR Study will evaluate the accomplishment of objectives through analyses performed on transactions submitted in the data collection.

C. The DODSSR Study Team will analyze and compare the results of the test based upon a review and comparison of participating activity evaluation reports, the data collection and operational review of the SSR processes at participating activities.

Attachments

AUTODIN TEST CONTACT POINTS

SERVICE/ AGENCY	ORGANIZATIONAL LEVEL	NAME	TELEPHONE NUMBER	ADDRESS
DoD	Study Activity	T.D. Beck	756-2315 703-756-2315	DODSSR Defense Logistics Analysis Office Cameron Station Alexandria, VA 22314
	Test Coordinator	Campbell Trice	284-6261	
Army	Headquarters	Nick Morkides	977-7146	Chief USA DARCOM Catalog Data Activity Attn: DRXCA-PM (Mr. Morkides) New Cumberland Army Depot New Cumberland, PA 17070
	ICP	Sandy Knight	693-3892	Commanding General U.S. Army Troop & Aviation Materiel Readiness Command DRSTS-SLDL(1) St. Louis, MO 63120
Navy	Headquarters	Sam Gray	227-8585 292-697-8585	Commander Naval Supply Systems Command Attn: Code 0342C Crystal Mall, Bldg. 3 Washington, D.C. 20376
	ICP SPCC System Coordinator	Don Shuman Code 790	430-3911	Commanding Officer U.S. Navy Ships Parts Control Mechanicsburg, PA 17055
	Functional Coordinator	Joe Stadterman Code 562 Bldg. 312 Bay D27		

Attachment A

AUTODIN TEST CONTACT POINTS

SERVICE/ AGENCY	ORGANIZATIONAL LEVEL	NAME	TELEPHONE NUMBER	ADDRESS
Air Force	Headquarters	Dave Green	787-2894	Headquarters, AFLC Attn: LOIM (D. Green) Wright Patterson AFB Ohio 45433
	ICP SMALC System Coordinator	Don Anderson Code MMMRR	633-5028	Commander Sacramento Air Logistics Center McClellan Air Force Base California 95652
	Functional Coordinator	Jerry Duval Code MMISPE Bldg. 269 Bay E	633-3875	
DLA	Headquarters Systems Coordinator	Campbell Trice	284-6261	Director Defense Logistics Agency Cameron Station Alexandria, VA 22314
	Communications Coord.	Walter J Shaltis	284-7128	
	ICP DGSC System Coordinator	Ann Reed DGSC-SP	695-3950	Commander Defense General Supply Center Richmond, VA 23297
	Functional Coordinator	C. Norris DGSC-SB Bldg. 32 Section G	695-4407	

Attachment A

AUTODIN TEST EVALUATION GUIDELINES
(SSR SUBMITTERS)

I. For all submitters:

Please rank and evaluate the following alternatives (*) as applicable to your activity, for each area (A-F) identified below. Specify by SSR condition, i.e., Condition 1, 2, or 3, where possible.

* SSR mailed, technical data mailed, AUTODIN reply (DIC CX1-CX4).

* SSR mailed, technical data mailed, advice (DIC CX1-CX4) mailed.

* SSR AUTODIN, technical data mailed.

* SSR AUTODIN, technical data TELEFAX:

  - Digital
  - Analog

A. Control and audit trail for SSRs and technical data packages.

B. Loss rate of SSRs and technical data.

C. Processing efficiency/effectivenes/timeliness.

D. In-house processing procedures required to accommodate each alternative.

E. Identify any additional resources required.

F. Identify problems or delays encountered in the collection/transmittal of SSRs and technical data.

II. For SPCC and SMALC only:

A. Did the use of a electronic device to send technical data improve the effectiveness of the system?

B. Was the equipment used in the test satisfactory in terms of timeliness and quality?

C. Is the concept of using electronic devices to send technical data valid?

D. If AUTODIN was used to submit SSRs would a means to submit technical data electronically be required?

III. Comments:

Additional comments, recommendations, conclusions on the utility of these alternatives for Condition 1, 2, or 3 SSRs.

Attachment B

AUTODIN TEST EVALUATION GUIDELINES
(SSR RECEIVER)

I. Please rank and evaluate the following alternatives (*) as applicable to your activity, for each area (A-F) identified below. Specify by SSR condition, i.e., Condition 1, 2, or 3, where possible.

Alternatives:

* SSR mailed, technical data mailed, AUTODIN reply (DIC CX1-CX4)

* SSR mailed, technical data mailed, advice (DIC CX1-CX4)

* SSR AUTODIN, technical data mailed.

* SSR AUTODIN, technical data TELEFAX

  - Digital

  - Analog

A. Control and audit trail for SSRs and technical data packages.

B. Loss rate of SSRs and technical data.

C. Processing efficiency/effectiveness/timeliness.

D. In-house processing procedures required to accommodate each alternative.

E. Identify any additional resou-ces required.

F. Identify problems or delays encountered in the collection/transmittal of SSRs and technical data.

II. TELEFAX of technical data

A. What impact did the use of electronic equipment to transmit technical data have on the timeliness of technical data submission?

B. Compared to the system of having technical data mailed, was more or less technical data received using telefax?

C. Was the quality of technical data received via electronic transmission sufficient for DGSC usage in:

1. Item Entry Control

2. Item Identification

Attachment C

3. NSN request

4. Entry into technical data library

D. For SSRs which indicated technical data was required, was that data received?

E. Were technical data packages received that could not be matched to SSRs or their resubmittals?

F. Were submitters responsive to mechanical followup requesting technical data?

III. A. Additional comments, recommendations, conclusions on the utility of the alternatives for Condition 1, 2, and 3 SSRs.

B. Do you feel the use of AUTODIN and/or TELEFAX transmission of technical data improve the effectiveness/efficiency of the following actions:

1. Transmission time

2. Internal processing time

3. Validation

4. Item entry control

5. NSN assignment

6. Initial advice

7. Final

8. Followups/replies

9. Control

Attachment C

APPENDIX D

VALIDATION ERROR CODES

A. ARMY VALIDATION REJECT CODES

ATC	DEFINITION
S1	Invalid Action Taken Code
S2	Invalid Additional User
S3	Invalid Authorized II Data Collaborator Code
S4	Invalid Authorized II Data Receiver Code
S5	Invalid Acquisition Advice Code
S6	Invalid Card Number
S7	Invalid Contract/Control Number
S8	Invalid Destination Activity Code
S9	Invalid Date NSN Required
01	Part Number and/or FSCM is missing or does not reflect all the required digits characters to completely identify the item of supply.
04	Unit of Issue is invalid, blank, or different from established Unit of Issue for currently managed IMM NSN.
05	CIMM to SICC. Item submitted is blank in cc 30 with no user from the submitting military service (MILSVC) recorded in DIDS or IMC is other than Z.
06	Invalid percentage of end item east code
07	CIMM to SICC only. Item submitted on SSR does not contain a unit price or the unit price contains other than numerics and is not currently managed by this CIMM.
18	Source Code of LISSR is invalid
23	Invalid Retail Quantity
24	Invalid Replenishment Quantity
25	Invalid Retail and Replenishment Quantity
28	Non-numeric NSN entry
31	Quantity per end item of LISSR contain the other than four numerics.
38	Production Lead Time (PLT) is blank or other than numerics
39	RNJC is other than blank or 1 thru 7
40	Invalid Shelf-Life Code
43	Invalid Demilitarization Code
47	Invalid Date of Advice
48	Invalid Date of Request
49	Invalid Date Repair Parts Required
50	Invalid Document Identifier Code
51	Valid PDSSR with no LISSRs
53	Invalid End Item Delivery Code
54	Invalid Document Availability Code

55	Invalid date technical data to be supplied
59	Invalid MOE Rule
61	Invalid End Item Quantity
65	Invalid End Item Name, Type and Model
71	Invalid End Item NSN
72	Invalid FSCM
73	Invalid Federal Supply Classification
74	Invalid Provisioning Control Code
75	Invalid Retail Quantity
76	Invalid Replenishment Quantity
77	Invalid Item Management Code
78	Invalid Item Serial Number
79	Invalid Unit of Issue
80	Invalid Interchangeability Code
81	Invalid Special Material Content Code
82	Invalid Materiel Management Aggregation Code
83	Invalid Type Change Code
84	Invalid Technical Data Justification Code
85	Invalid Reference Number Justification Code
86	Invalid RNFC
87	Invalid RNCC
88	Invalid RNVC
89	Invalid Item Name
90	Invalid Noun Name
91	Invalid Manufacturers Part Number
92	Invalid NSN
93	Invalid Number of SSRs Enclosed
94	Invalid Activity Code From
95	Invalid PSCN
9L	Invalid Procurement Method Code
9M	Invalid Source Code
9N	Invalid Production Lead Time
9P	Invalid Percent of End Items East
9Q	Invalid Weapon System Code
9R	Invalid Additional User Code
9S	Invalid Unit Price
9T	Non-numeric FSC/Support Date on CX1/4
9U	Duplicate Transaction
9V	Change transaction for non-existent initial submission transaction
9X	No CXF for required matching CXB
9D	LISSR not accompained by a PDSSR
9E	Card 1 or Card 2 of Part Number LISSR missing
9F	Catalog transaction not accompained by a LISSR
9G	LISSR TCC equal to space not compatible to PDSSR TCC equal to 'P'
9H	LISSR with TCC equal to 'R' without LISSR with TCC equal to 'S' or LISSR with TCC equal to 'S' without LISSR with TCC equal to 'R'

9A	Valid PDSSR with valid and invalid LISSRs
9B	Valid PDSSR with invalid LISSRs only
9C	Valid catalog transaction with invalid LISSR

B. NAVY VALIDATION REJECT CODES

ATC	DEFINITION
A	Invalid Production Lead Time
B	Invalid Unit Price
C	Invalid NSN or Item Name
D	Invalid PSCN
E	Invalid Contract/Control Number
F	Invalid Item Management Code
G	Invalid FSCM
H	Invalid FSC
I	Duplicate Record
J	Invalid Document Availability Code
K	Invalid Reference Number Variation Code
L	Invalid User MOE Rule
M	Invalid Supplemental II Data Receiver or Supplemental II Data Collaborator
N	Invalid Manufacturers Reference Number
P	Invalid PCC
Q	Invalid End Item Quantity
R	Invalid ISN
S	Invalid Retail Quantity
T	Invalid Replenishment Quantity
U	Invalid DIC
V	Multiple errors this record
W	Valid PDSSR with no valid LISSRs
X	Catalog transaction without valid LISSR
0	Card Number 1 or Card Number 2 for Part Number LISSR missing
1	Invalid Activity Code To
2	Valid PDSSR with TCC equal to 'P' without LISSR having TCC equal to 'C', 'D', 'R', 'S', or 'T'
6	Invalid Card Number on Part Number LISSR
8	Invalid Date of Request

C. AIR FORCE VALIDATION REJECT CODES

CODE	DEFINITION
00	Undefined Error
01	Invalid Document Identifier Code
02	Invalid Provisioning Control Code
03	Invalid Date of Request

04	Invalid Item Serial Number
05	Invalid Support Date in CX1/4
06	Invalid AAC
07	Invalid Activity Code To or Activity Code From
09	Invalid Action Taken Code
10	Invalid Contract/Control Number
12	No record of offer for this CX2
13	Invalid Type Change Code
14	Invalid FSCM
15	Invalid Unit Price
17	NSN/PSCN/Manufacturer Part Number invalid on CX1/4
18	Invalid NSN
19	Invalid Date of Advice
20	Invalid End Item Quantity
24	LISSR change transaction without initial submission LISSR or LISSR with TCC equal 'R' without LISSR with TCC equal 'S' or LISSR with TCC equal 'S' without LISSR with TCC equal 'R'
26	Valid LISSR without PDSSR
28	Invalid Replenishment Quantity
29	Catalog transaction without LISSR or Card Number 1 or Card Number 2 of Part Number LISSR missing
31	Invalid Demilitarization Code
34	Invalid Technical Data Justification Code
35	Invalid Quantity Per End Item
36	Invalid Date Technical Data to be Supplied
38	Invalid Unit of Issue
39	Manufacturers Part Number Missing
40	Invalid or Missing MOE Rule
41	Invalid Retail Quantity
42	Duplicate Item
45	Invalid Federal Supply Class
51	Invalid Weapons System Code
52	Invalid Materiel Management Aggregation Code
53	Invalid Entry in Date of Request
56	Another transaction with the same PCC, ISN, DOR is in error
57	Invalid Percent End Items East
58	Invalid PSCN
60	Invalid Date of Advice

D. GSA VALIDATION REJECT CODES

CODE	DEFINITION
B300	Activity Code From must be '75'
B301	Must be blank
B302	Type Change Code must be 'V' or space
B303	Message must be blank or say "Deactive"
B304	NSN must be entered when ATC is YJ, YR, YU, 33, 34, YA, or YL
B305	ADP flag must be blank or 'N'

B306	PSCN must be entered when ATC is 'YW'
B307	Item Serial Number must be alpha/numeric, no special characters, left-justified, no embedded blanks.
B308	DOR must be numeric
B309	DOA must be numeric
B310	Provisioning Control Code must be alpha/numeric, no special characters
B311	FSCM must be blank
B312	Invalid Action Taken Code
B313	Invalid Activity Code To
B314	Duplicate submission matching PCC, DOR, ACF
B315	Date is optional when ATC is YQ, YA, or YL and must be numeric when entered
B316	Date must be entered when ATC is YX or YC and must be numeric
B317	FSCM must be entered when ATC is YQ and must be numeric
B318	Message must be "Deactive" when ATC is blank
B319	Manufacturer Part Number must be entered when ATC is YQ
B320	Activity Code From must be alpha/numeric
B322	Invalid Activity Code From
B325	Type Change Code must be N, P, V
B326	Number of SSRs Enclosed must be numeric
B327	No PDSSR or Multiple PDSSRs
B328	Number of different ISNs does not equal Number of SSRs submitted on PDSSR
B329	Transaction does not match SSR Suspense File

E. IMM MANUAL VALIDATION REJECT CODES

CODE	DEFINITION
01	Invalid Manufacturers Reference Number
04	Invalid Unit of Issue
05	CIMM to SICC only. The item, submitted is blank in cc 30 with no user from the submitting MILSVC recorded in DLSC on the IMC is other than Z.
07	Invalid Unit Price
18	Invalid Source Code
23	Invalid Retail Quantity
24	Invalid Replenishment Quantity
25	Invalid Retail and Replenishment Quantity
28	Invalid NSN
30	Invalid Acquisition Advice Code
31	Invalid Quantity Per End Item
32	Package error for LISSR Transaction
38	Invalid Production Leadtime
39	RNJC is other than blank or numeric 1 thru 7
40	Invalid Shelf Life Code

52	PCC package error for PDSSR
56	Invalid or missing data on a CX2 record
59	WIMM to SICC only. Missing or invalid MOE Rule

F. DODSSR VALIDATION ATCs

CODE	DEFINITION
01	Invalid Manufacturers Reference Number
04	Invalid Unit of Issue
07	Invalid Unit Price
18	Invalid Source Code
23	Invalid Retail Quantity
24	Invalid Replenishment Quantity
25	Invalid Retail and Replenishment Quantity
28	Invalid NSN
30	Invalid Acquisition Advice Code
31	Invalid Quantity Per End Item
32	Package error for LISSR Transaction
3A	Invalid Activity Code To on LISSR
3B	TCC or PDSSR equal 'N', TCC on LISSR not equal space
3C	TCC on PDSSR equal 'V', TCC on LISSR not equal 'V"
3D	TCC on PDSSR equal 'P', TCC on LISSR not equal 'C', 'D', 'R', 'S', 'T'
3E	Invalid Date of Request on LISSR
3F	Invalid Provisioning Control Code on LISSR
3G	Invalid Activity Code From on LISSR
3H	Invalid PSCN
3I	Invalid Item Serial Number
3J	Invalid Card Number
3K	Invalid Item Name
3L	Invalid Federal Supply Classification
3M	Invalid Additional Activity Code on Additional User Transaction
3N	Invalid Date of Advice
3O	Invalid IMM Manual ATC
3P	ATC '66' on Advice Transaction
3Q	ATC equal 'YA', 'YL, 'YQ' in advice or follow-up response transaction and support date not equal spaces or valid date
3R	ATC equal 'YX' in advice or follow-up response transaction and support date not valid
3S	Invalid ATC in offer reply transaction
3Z	Invalid Procurement Method Code
36	Duplicate PDSSR Transactions
38	Invalid Production Leadtime
40	Invalid Shelf Life Code

42	Duplicate LISSR, Catalog or LIAC transaction
43	Invalid Demilitarization Code
51	Valid PDSSR with no LISSR
52	PCC package error for PDSSR
5A	Invalid Activity Code To on PDSSR
5B	Invalid TCC on PDSSR
5C	Invalid End Item NSN, Name, etc
5D	Invalid Date Repair Parts Required
5E	Invalid Contract Control Number
5F	Invalid Date of Request on PDSSR
5G	Invalid End Item Delivery Code
5H	Invalid Provisioning Control Code on PDSSR
5I	Invalid Activity Code From on PDSSR
5J	Invalid End Item Quantity
5K	Invalid Percent End Items East

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